Stipulated Transcript of Record

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1925

No. 19, Original

THE STATE OF MICHIGAN, COMPLAINANT,

vs.

THE STATE OF WISCONSIN

IN EQUITY

FILED OCTOBER 8, 1923

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM. 1925

No. 14, Original

THE STATE OF MICHIGAN, COMPLAINANT,

vs.

THE STATE OF WISCONSIN

IN EQUITY

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[fol. 1] **IN SUPREME COURT OF THE UNITED STATES,**
OCTOBER TERM, 1923

Original No. 25. In Equity

THE STATE OF MICHIGAN, Plaintiff,

vs.

THE STATE OF WISCONSIN, Defendant

Transcript of Testimony Taken Before Conway Elder, Special Commissioner

CAPTION

Pursuant to stipulation entered into by counsel for plaintiff and defendant above mentioned, the taking of testimony in the above entitled cause was commenced on the 28th day of August, 1924, at Detroit Island, in Green Bay, United States of America, before Conway Elder, Esq., of St. Louis, Mo., Special Commissioner appointed by said court in said cause.

APPEARANCES OF COUNSEL

A. L. Sawyer, Esq., of Menominee, Mich., Special Counsel for plaintiff.
R. M. Rieser, Esq., of Madison, Wisc., Special counsel for defendant.

Reported by H. A. Buck, St. Louis, Mo.

[fol. 2] The plaintiff, to sustain the issues upon its part, offered the following evidence, to-wit:

Captain C. O. PEDERSON, being duly sworn, on his oath testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. Please state your name.
A. C. O. Pederson.
Q. Captain, how old are you?
A. I am going on eighty-three.
Q. Where were you born?
A. In Norway, Christiania.
Q. When did you come to this country?
A. About '70, 1870.
Q. At first where did you live when you came to this country?
A. Chicago.

Q. And then where? Did you stay long in Chicago?
A. No; I stayed there—Well, I sailed from Chicago in the winter.
Q. About '70 was it then that you located at Manitowoc?
A. Yes.
Q. And from there what was your business?
A. Sailing at that time.
Q. Where did you sail when you sailed out of Manitowoc?
A. From Chicago first we sailed to Michigan.
Q. I know, but when you were sailing after you were living in Manitowoc where did you sail?
A. I sailed from—started in the spring from Milwaukee, and then sailed over Michigan.
Q. Did you come through and into Green Bay?
[fol. 3] A. Once in awhile.
Q. Into the waters of Green Bay?
A. Yes. At first we sailed from Chicago, and then I sailed to Menominee.
Q. You sailed to Menominee from Chicago?
A. Yes.
Q. As early as 1870?
A. Yes, about '70.
Q. What passage did you go through?
A. Through the Door.

Mr. Rieser: Just before that answer is given, I object to that for the reason it is incompetent, irrelevant and immaterial, because the experiences of this witness is at a time entirely different than that at the time the boundary was established, and there is no showing in the record, and no testimony in the record showing the conditions at that time were the same as at the time the boundary line was established.
The Commissioner: I understand that the Commissioner is not to make any ruling?

Mr. Sawyer: You take all testimony subject to the objections. Now you may answer. Which passage did you go through?
A. Through the Door.
Q. What we call Death's Door?
A. Death's Door, yes, sir.
Q. That is the passage located between Washington Island and the mainland of the peninsula?
A. Yes.
Q. Where do you live now?
A. Now I live right here on Detroit Island.
Q. You live right here on Detroit Island?
A. Yes.
[fol. 4] Q. How long have you lived here, about? Tell as nearly as you can when you located on Detroit Island.
A. Some thirty-four years or so; more than that, thirty-seven anyhow.
Q. What has been your business since you have been up here?

A. Sailing most of the time, and working for the government when I didn't sail.

Q. In working for the government what did you do?

A. Well, I—First, we built up the lighthouse out here, and I was in the lighthouse as laborer.

Q. What else did you do? Did you work in the Life Saving Service?

A. Yes.

Q. State when you commenced working in the Life Saving Service?

A. That was when they first established the station, for the first keeper anyhow.

Q. You worked for the first keeper?

A. Yes.

Q. From that would you be familiar with the passage of the vessels through the Door?

A. Yes, sir. We saw them every day.

Q. Have you lived here ever since?

A. Yes, sir, I have been living here since.

Q. What can you say as to whether or not most of the vessels in those early days went through the Door, or through Rock Island passage?

Mr. Rieser: I object to that for the reason it doesn't fix the time [fol. 5] as to when the witness is to answer as to the course of boats, and for that reason the testimony may relate to hearsay, and is entirely incompetent, irrelevant and immaterial; and for the further reason that the witness' knowledge relates to a time entirely different than when the boundary line was fixed, and for that reason the testimony would be entirely immaterial.

Mr. Sawyer: Now you may answer, where most of them went, through the door or——

A. Through the door, yes.

Q. Now, in speaking of early days what do you mean, the days when you first came here, that most of them went through the door?

A. Right along until the canal was built.

Q. Until the canal was built?

A. Yes, sir.

Q. You speak of Sturgeon Bay canal?

A. Yes.

Q. What can you say as to the passage that was used by boats going to Green Bay? Boats that come in from Lake Michigan going to Green Bay, which passage would they use?

Mr. Rieser: Just a moment. The same objection I have raised to the previous questions, on the same ground.

Mr. Sawyer: Why don't you make the same objection apply to all of this testimony? You can if you want to, to save time. Read the question.

(Last question read as follows: "What can you say as to the passage that was used by boats going to Green Bay? Boats that [fol. 6] come in from Lake Michigan going to Green Bay, which passage would they use?")

A. Before the canal was built?
Q. Yes.
A. We went all through the Door.
Q. When you came here what lighthouse, if any, was being used in the Door?
A. Pilot Island.
Q. Did you see any ruins of any old lighthouse at that time?
A. You have to go to the shore to see the ruins. If you sail you couldn't see them.
Q. Have you ever seen the ruins of an old lighthouse on Plum Island?
A. Yes, sir.
Q. How early did you see that, about how early?
A. I seen it most after the station was built there, and then we traveled around the island all the time.
Q. You mean after the present Plum Island light was built, or the old one?
A. No, the new one.
Q. The new one?
A. Yes.
Q. And where were the ruins of the old lighthouse, on what side of Plum Island?
A. On the west, the southwest point I might call it.
Q. Now, can't you fix pretty near the year that you saw it first?
A. The ruins?
Q. Yes.
A. Well, that would be after they built the station.
[fol. 7] Q. I know, you have said that. Can you tell about what year? Or how long was it after you came to Detroit Island before you saw these ruins?
A. I can't think of that.
Q. You can't tell?
A. I know we stopped one night and justed landed there in the winter time.
Q. That was pretty soon after you came here?
A. Yes, it was.
Q. Now, tell me, did you ever see that light burning?
A. No, never.
Q. Was it in shape to burn when you came here?
A. No, never was.
Q. You have since examined those ruins?
A. Only the stones.
Q. But you have been there and you have seen the ruins?
A. Yes, many times.
Q. Are you sure that those are the ruins of a lighthouse?
A. Well, we always called it that.

Q. Well, does it appear to be?

A. Yes.

Q. Do you remember any time of going there with some other man and looking at the ruins?

A. Well, when we were patrolling on the station we only went one at a time.

Q. When you went on a patrol you went through there?

A. Yes; every night when we changed watch from one to another the patrol went past there.

Q. Do you remember of going over there with some other man [fol. 8] at one time and looking at the ruins carefully, and the walls, so as to know what condition the walls were in?

A. No. We was so used to it we never mentioned it.

Q. Let me ask you this as a reminder: Do you remember any time of going to those ruins and the man that was with you pushed on the walls and you thought it was going to fall over?

A. That was the ruins at Bailey's Harbor.

Q. That was the ruins at Bailey's Harbor?

A. Yes.

Q. Then it isn't material here. Do you know anything about what course the vessels going to Green Bay and coming from Green Bay would take in the bay, in Green Bay?

Mr. Rieser: I would like to inquire first when that question relates to, and I object to it unless it fixes the time.

Mr. Sawyer: Let me ask that question again in view of the inquiry.

Q. During the first few years that you were living here on Detroit Island can you say what course through Green Bay the vessels took that were coming from Lake Michigan and going to the village of Green Bay, or going from the village of Green Bay out into Lake Michigan? Can you say what course they took?

Mr. Rieser: I object to that for the reason it is apparent from the record so far that the witness has no information as to the course of vessels in Green Bay at the time the boundary line was established, [fol. 9] and for the reason the question is incompetent, irrelevant and immaterial.

Mr. Sawyer: Now you may answer.

A. Of course, the first course we went northwest through the Door, but I would have to have a chart to show it.

Q. You would have to have a chart to show it?

A. Yes.

Q. We have got one here.

A. That would be different courses again after you got through the Door.

Q. I will refer to what will be Plaintiff's Exhibit 115. Now, will you tell me, after passing through Death's Door, if you were coming down to the village of Green Bay how would you sail and what course would you take?

A. Here's Sturgeon Bay (indicating).

Q. Here's Sturgeon Bay, and here's Chambers Island, and here's Menominee (indicating on chart).

A. The course would be northwest.

Q. Which channel would you take, east or west channel?

Mr. Rieser: I would like to have you let the witness show the channel.

The Witness: Here's Chambers Island (indicating). You come up this way (indicating), and on this side.

Mr. Rieser: When you say "on this side" you say on the west side of Chambers Island; is that right?

A. Yes, sure. Here's Strawberries over here (indicating). You come here (indicating), and cross to Menominee.

[fol. 10] Mr. Sawyer: You would go to Menominee?

A. We went here (indicating) sometimes; but when we went into Green Bay we would cross here (indicating).

Q. Here's Green Island (indicating).

A. Here's Green Island.

Q. Right there, tell us which side of Green Island you went.

A. Green Island on the left (indicating).

Mr. Rieser: That is on your left?

A. That would be here (indicating).

Mr. Sawyer: You would go west of Green Island here (indicating) as you were going, Mr. Pederson?

A. Yes, west. And here is Peshtigo Point (indicating), you see?

Q. Yes.

A. Then you come up here (indicating), then you have got a straight course up there (indicating).

Q. Was that at the time when you were picking up lumber at Peshtigo and Menominee?

A. Yes. One time we was in Green Bay and we went to an anchor in a storm, and we broke the chain pipe and we went up to Green Bay and had that fixed.

Q. You are telling about one course that you took?

A. Yes, sure.

Q. Do you know if a vessel was coming from Green Bay through Death's Door and coming down to the villages at the head of Green Bay which channel would they take, east or west of Chambers Island?

A. Coming through from Lake Michigan?

[fol. 11] Q. Yes, and coming down to Green Bay?

A. On this side here (indicating).

Mr. Rieser: West of Chambers Island?

A. Yes, sure.

Mr. Sawyer: And if they were going from Green Bay out into Lake Michigan going to Chicago which course would they take?

A. Then take the same course, you know. It will depend a good deal on the wind; but they could go through Strawberries; but at

that time there wasn't no can bouy in here (indicating); and here's Rock Island right here (indicating).

Q. No, not Rock Island; you don't mean that.

A. I mean Eagle Harbor right here (indicating), and up here (indicating) was the light; and then we didn't take that passage; it was so narrow we never went that way.

Q. You are speaking of sailing vessels?

A. Sure. It was always sailing vessels I am saying that time.

Q. Do you know anything about the course that the steamboats took?

A. You would very seldom see a steamboat.

Q. Do you know what course they took?

A. Oh, yes, sure; they took the same.

Q. Which do you mean?

A. Not through Strawberries; they wouldn't tackle in there.

Q. Do you know which course the Goodrich line takes through there now?

A. I can't tell, no; there's been so many things changed I don't [fol. 12] know. But if they go to Menominee they wouldn't go through there.

Q. Not in going to Menominee?

A. I mean from Green Bay.

Q. Supposing they were going out from Sturgeon Bay, before the canal was built, and they were going from Sturgeon Bay out into Lake Michigan do you know which channel the steamboats would take? If you don't know just say so.

A. No. I know what course I would take.

Q. But you don't know what course steamboats did take?

A. No. I wouldn't travel in here (indicating), except I was going to Fish Creek or Ephraim.

Mr. Rieser: When you say "in here" you refer to the Strawberry group?

A. Yes.

Mr. Sawyer: It is conceded he pointed to the Strawberry channel.

The Witness: Yes; there is no passage at all through here (indicating).

Mr. Rieser: When you say "No passage at all through here" you refer between Chambers and Strawberry Islands; is that right?

A. Yes. There is no passage there.

Mr. Sawyer: Now, how long did you sail—how many times did you sail into Green Bay yourself?

A. Well, I didn't sail many times in there, no.

Q. Have you ever seen the other sail boats as they sailed into Green Bay except as you seen them coming through the Door?

[fol. 13] A. Not at that time, but afterwards.

Q And at that time how far could you see them? Could you tell if they made the change right in the Door to a west course? Could you see them as to which way they changed from the west course?

A. No; I didn't keep track of them, only just going through here (indicating).

Q. Then all you know about the course that the sailors took was what you did yourself; is that the idea?

A. Yes. And when I sailed Green Bay, yes.

Q. But you could tell where they went through the Door?

A. Yes.

Q. You could see that from your location?

A. Yes.

Q. You could see that from your location under your work?

A. Yes.

Mr. Sawyer: I think that is all with this witness.

Cross-examination by Mr. Rieser:

Q. Now, Mr. Pederson, in making your trips up and down Green Bay would you meet other boats, sail boats?

A. Well, I just can't remember who we meet, you know.

Q. Do you recall of ever having met some?

A. Oh, yes, sure.

Q. And were they taking about the same course that you were taking?

A. Yes.

Q. Is that right?

A. Yes, sure; they all went that way. That is the way we learned to go.

Q. And when you say they all went "that way" you mean they [fol. 14] went west of Chambers Islands?

A. Yes.

Q. And west of Green Island?

A. Yes. That is where we had to go.

Q. And when you say you were told, who told you about this course? How did you come to know about this course? Did some of the old sailors tell you which way to go?

A. Yes.

Q. Do you mean Green Island on your right or on your left as you were going down towards Green Bay? Green Island would be on your right; is that right?

A. Yes, sir.

Q. And as you went by Chambers Island that would be on your left (indicating); is that right?

A. Yes.

Q. And as you were a greenhorn on the boat some of the old-time sailors told you to take that course?

A. I wasn't running the boat; the captain told me what we had to do.

Q. And that is why you followed that course in later years?

A. Yes. And when we were on deck we took that course.

Q. And in later years when you sailed your own boat you followed [fol. 15] the same course?

A. Yes, sir.

Q. In your experience in Death's Door you say most of the boats went through Death's Door; do you know how many boats went through the Rock Island passage during that time?

A. I don't know any one that went there except they come from Mackinac.

Q. Then what you mean, Mr. Pederson, is that all boats that went down into the lower, or the head of Lake Michigan took the Death's Door?

A. Yes .

Q. Is that right?

A. Yes, every time.

Q. And all boats that would go down to the lower lakes—When I say Lower Lakes I mean towards Detroit and Cleveland, and in that direction, they would take the Rock Island passage, or some of the northern passages, wouldn't they?

A. I don't think so.

Q. You mean boats coming from Lake Erie would go through Death's Door?

A. Yes.

Q. Did you ever see any boats coming in from there to go through Death's Door?

A. Yes.

Q. That you knew came from Lake Erie?

Mr. Sawyer: Mackinac is what he spoke of, and that is on the direct course.

The Witness: That is pretty hard for me to tell you now. That means after I was here?

[fol. 16] Mr. Rieser: After you came here to live at this place could you say that any boats coming from Mackinac went through Death's Door, or where would they go?

A. I think they would take this passage here through the Door.

Q. You knew at that time, didn't you, Mr. Pederson, that there was a light on Rock Island?

A. Yes; and the old lighthouse keeper is living in here; he would know that.

Q. He would know more about that than you would, wouldn't he?

A. Yes, sure he would know it; old Betts, he knows everything about that.

Q. And isn't this also true, Mr. Pederson; that of the boats you saw go through Death's Door by far the greatest number of them were going down to lower Lake Michigan?

A. Yes.

Mr. Sawyer: You don't mean lower Lake Michigan; you mean Chicago.

The Witness: Yes, to Chicago.

Mr. Rieser: And in that direction?

A. Yes.

Q. South, and the southern part of Lake Michigan; is that right?
A. When they come from Green Bay and through the Door, yes.
Q. By far the largest number of those boats were headed in that direction?
A. Yes. I could say that until the canal was ready.
[fol. 17] Q. Until the canal was through?
A. Yes.
Q. Could you give us any idea about how many, or what per cent or proportion of the boats that went through Death's Door during your time were headed towards the southern part of Lake Michigan?
A. I don't know.
Q. Would you say that there was over ninety per cent of them?
A. Sure.
Q. Over ninety per cent of them?
A. Yes.

Mr. Rieser: I think that is all.

Fred S. Richter, being duly sworn, on his oath testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. Please state your name.
A. Fred S. Richter.
Q. Where is your present home, Mr. Richter?
A. Right here.
Q. Right here on Detroit Island?
A. Yes.
Q. And how long have you lived here?
A. Well, I can't say just exactly; somewheres around thirty years.
Q. Tell me where you were born?
A. I was born on Washington Island.
Q. Have you lived all your life in this vicinity, Washington and Detroit Islands?
A. All except two years that I was living across the bay from Escanaba. That is all i was ever away from here.
[fol. 18] Q. What has been your business?
A. Fishing mostly.
Q. And how old are you now?
A. Sixty, sixty-two.
Q. Sixty-two. Do you remember lighthouse conditions in this vicinity in your early life?
A. Nothing more than they had out here, Pilot Island light.
Q. Did you ever see the ruins of any old lights?
A. I seen them, yes, sir.
Q. Where is that light located, the ruins; where are the ruins located?

A. On Plum Island, about the southwesterly direction on Plum Island.

Q. Did you ever see that light burning?

A. Never in my life.

Q. Were the ruins there in your early life?

A. Well, I could not say when the time I seen it, but it was quite a good many years ago, but I can't just state when, just exact.

Q. Have you ever known of the light burning?

A. Never. I never knew of it, and never heard anyone say they seen it burning.

Q. It was ruins then when you first saw that vicinity?

A. Yes.

Q. Can you fix any approximate date as to when that was?

A. I could not. I don't know what time that was.

Q. Was it when you were a boy, or young man?

A. Certainly, when I was a boy.

Q. What can you say as to whether or not there were any wrecks around in the channel of Death's Door when you were a boy?

[fol. 19] A. Oh, there was quite a few of them around Pilot Island, and also one or two on Plum Island, and at various places here boats would get stranded. Pilot Island seemed to have the most.

Q. Then in your fishing you have probably sailed all the waters around Washington and Plum Islands, have you?

A. I have been all around them, certainly.

Q. Have you been familiar with all these waters all your life?

A. I was.

Q. What can you say as to which passage was most used in your boyhood days?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, and not confined to the time of the establishment of the boundary, and for the further reason that there has not been sufficient foundation laid for this witness to give any testimony as to the use of the various channels.

Mr. Sawyer: Now you may answer.

A. I could not say anything about the vessels, which way they were going.

Q. No, but I say which was used most?

A. That I could not say. Being over on this side I could not say. There was many of them going on the other side of the island, you see. I didn't keep no note of it, so I wouldn't know. I seen lots of them going through this passage here, going up as we call [fol. 20] it towards the bay, in that direction, going up toward Menominee and Green Bay and Peshtigo.

Q. They would go through Death's Door, would they?

A. Yes, sir.

Q. And in your experience of a life-time here in this locality what would you say as to which passage was most used in the earliest days of your life?

Mr. Rieser: I object to that for the same reasons.

Mr. Sawyer: You have said you sailed all around, and which would you say was most used?

A. Well, that place was most used, that I could say what I have seen. Of course, I couldn't say——

Q. You say "That place"; do you mean Death's Door?

A. I certainly do mean that.

Mr. Sawyer: That is all.

Cross-examination by Mr. Rieser:

Q. I believe you said you didn't know about how much the Rock Island passage was used?

A. I do not. I don't know how much, but once in awhile around there they come. I wouldn't know what was going through there; only what was going through here, that's all I could see.

Q. That is all you could see?

A. Yes.

Q. And that is really all you know about it, where the boats went through?

A. That is all. The only thing, a man could maybe get if he got [fol. 21] the lighthouse keeper, if he kept any tab of the boats going through on this one here, on Pilot Island he could give you more knowledge on that than I could.

Q. But you haven't any knowledge yourself as to which one of these passages was most used, have you?

A. No, I couldn't swear to it, only in the early days the most of them that I seen was going through this way, through Death's Door and out into Green Bay. Of course some went through the other way, but I have no knowledge of it.

Mr. Rieser: That is all.

Redirect examination by Mr. Sawyer:

Q. In case of heavy storms can you say what refuge was used by the vessels?

A. The Door here between Plum Island and Detroit Island and Pilot Island was mostly used, to my knowledge. That is all I know about it, because they were laying to an anchor there in storms.

Q. And how many vessels have you seen at a time anchored in the harbor in the Door?

A. They wouldn't come in here, you know; but out here in the Door I have seen as high as—Well, I don't know whether there was that many or not, but there was forty we counted there one time, but that was once, you know; but most of the time you would see eight, ten, fifteen, twenty or thirty of them there; but forty there was there at one time, but what time that was I haven't no idea.

[fol. 22] Q. What is the safest harbor in this vicinity from all kinds of storms?

Mr. Rieser: I object to that for the reason there is no sufficient foundation laid, and this witness is not qualified to testify.

Mr. Sawyer: I don't care to argue it. But you can answer.
Mr. Rieser: If you know.

A. We haven't got no safe harbor here, only to an anchor out here, for many miles around here. We have got Escanaba, you might say, or down at Eagle Island.

Mr. Sawyer:

Q. For light draft boats?
A. For light draft boats they would come in here; they certainly have got a safe harbor here.
Q. You mean in Detroit Harbor?
A. Yes.
Q. That is a safe harbor in storm for any boat that would come in here, isn't it?
A. Yes; any boat that can sail in here cannot get blowed out.
Q. That isn't true of Washington harbor is it?
A. No, that is not true of Washington harbor; but still it is a safe harbor for boats when the wind is off land.
Q. When you say "off-land" which direction would that be?
A. That would be a southerly wind, southeast or southwest, or anything from that quarter. But when it comes from the northwest, north and northeast it isn't a very good harbor for boats to [fol. 23] lay in there; but outside of them winds it is just as good there as anywhere. It is a good harbor to my knowing, got deep water.

Mr. Sawyer: That is all.

Recross-examination by Mr. Rieser:

Q. What would be the draft of a vessel that could come into Detroit harbor, Mr. Richter?
A. They could come in here drawing eight or nine feet of water.
Q. The vessels you saw at anchor in Death's Door passage were vessels that were waiting for the storm to die down so they could go out into Lake Michigan?
A. Yes, sir. They were loaded with lumber, or else loaded light.
Q. It is a fact also, isn't it, that the reason they didn't go out was because of the dangerous reefs they will meet outside of the harbor?
A. I suppose it was, because they didn't have as good maps those days as they do now. We have three lighthouses where we didn't have but one at that time, and the two bell buoys, one outside of Pilot Island and one right across from Plum Island.
Q. In times of severe storms did you ever see any boats, coming into this passage from a very severe storm?
A. Yes.
Q. From Lake Michigan?
A. Yes.
Q. Didn't all of those boats go around and go north of Rock Island?

A. That I could not say.

[fol. 24] Q. Did you ever see any of them that went past this way and went over further north?

A. I couldn't say that. They might have gone up to Manistique, might have gone up that way. They had to go them days with the wind, where the wind drove them, because they didn't have no power to use.

Q. And the passage leading out of Death's Door was known, and you heard sailors speak about it being quite dangerous in time of storm, didn't you?

A. I never heard anything of that.

Q You knew there were quite a few reefs out there?

A. Not so many after you leave Pilot Island, when you get out in the lake if you keep away from the southwest shore going up the lake. You see, if you keep away from that it is pretty good out in the lake; there is no reefs outside of there to hurt anything.

Mr. Rieser: I think that is all.

Mr. Sawyer: He was asking you about what sailors say; isn't it a fact that the sailors considered Death's Door the best passage up to the time that the surveys were made of the traverse?

A. I never listened to them, and if I had heard them I probably never paid no attention, never listened.

Q. The government has established life saving stations, have they not, and fog signals in Death's Door?

A. Yes, they have two, one at Pilot Island and one at Plum Island, [fol. 25] and there is a life saving station on Plum Island.

Q. Are there any fog signals in Rock Island passage?

A. No, there isn't.

Q. In case of a storm even up to today what course would vessels on the lake naturally take?

Mr. Rieser: If you know.

A. It would depend on the conditions, where the storm would catch them.

Mr. Sawyer: In case of a heavy fog which would they take?

A. Then refer to the compass, and what they know about sounding it out. It is pretty hard to tell, a man out here in a fog, what course he should take, or where he should attempt to make a landing. He would have to hunt that up himself.

Q. If he could hear a fog signal that would help him out some?

A. Yes, if he could hear a fog signal that would help him out some. Up the other side of St. Martins there is a fog signal, the passage between St. Martins and Gull Island.

Mr. Sawyer: That isn't in issue here.

Mr. Rieser: But they have a fog signal there?

A. Yes.

Q. In this traverse here, on these islands the only life saving station that is located on them is one at Plum Island?

[fol. 26] A. That is the only one until you get to Bailey's harbor. Bailey's harbor has one and the canal has one.

Q. And then there is none further north until you get up to the mainland of Michigan?

A. No.

Mr. Rieser: That is all.

Mr. Sawyer: Do you know of any life savings stations further north than those in this traverse?

A. No, I don't know of any, because ours goes clear down to St. Martins, and to Poverty Island and all those places that there are any wrecks.

Q. This station covers this whole line of islands in the traverse?

A. Yes.

Mr. Sawyer: That is all.

There being no further witnesses called at the above mentioned time and place the taking of further testimony was adjourned to this afternoon, August 28th, 1924, to be resumed at Washington Island, in Green Bay aforesaid.

And pursuant to the adjournment above noted the taking of further testimony on behalf of plaintiff was resumed this 28th day of August, 1924, at Washington Island, in Green Bay, United States of America, plaintiff and defendant being respectively represented by counsel heretofore mentioned.

[fol. 27] WILLIAM BETTS, being duly sworn, on his oath testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. Please state your name.

A. William Betts.

Q. Mr. Betts, how old are you?

A. Well, I was born the 22nd of March, 1834; that would make me ninety years old last March.

Q. And you live here on Washington Island now? Your residence is here on Washington Island?

A. Yes. I have made it my home here since 1858, 23rd of May, 1858.

Q. Before that where had you lived?

A. Before I come here I was in the lumber woods in Oconto.

Q. Were you ever on the waters of Green Bay before 1858?

A. Yes. I come through Death's Door in 1855 on a lumber vessel.

Q. Where was that vessel from? Where did that vessel come from?

A. Come from Chicago, was bound for Peshtigo.

Q. And where did it go to?

A. Went through the Door channel.

Q. And where did it land on the west shore of the bay?

A. They didn't land. They anchored off the mouth of Peshtigo River.

Q. It anchored off Peshtigo River?

A. They went after a load of lumber at Peshtigo River, and of [fol. 28] course they had to take it out of the water; there wasn't no pier to dock then. It was taken out on rafts.

Q. You have lived on the Island ever since? You have lived here ever since?

A. I have called it home here ever since. I was four years in the little scrap we had with the Johnnys.

Q. In the civil war?

A. I couldn't call it home then very well.

Q. At any time have you been a lighthouse keeper? Have you kept lighthouse any of that time?

A. Well, since the war, yes; I have kept the Rock Island, Pottawatomie light station as they call it, from the 22nd of March 1870 until some time in 1886, about seventeen years, I guess, something like that.

Q. Do you know what course vessels sailing between Chicago and Green Bay would take before the canal was built?

Mr. Rieser: I object to that for the reason it is not confined to the date or the time of the adoption of the boundary line between Michigan and Wisconsin, and for the reason it is incompetent, immaterial and irrelevant, and no sufficient foundation for the testimony of the witness.

A. Well, they would naturally take the Door course to get into Green Bay.

Mr. Sawyer: Well, did they take that course?

[fol. 29] A. It was the shortest way to get into Green Bay.

Q. And did they take that course?

A. I think they did, yes.

Q. Did you see the vessels going through the Door sometimes?

A. Yes, sometimes. I sailed here some years before I went in the lighthouse on a trader; we went around trading with the fishermen in different places.

Q. I understand you to say from your information and your experience that the vessels between Chicago and Green Bay went through Death's Door?

Mr. Rieser: I object to that as leading and suggestive, and not the statement of the witness; and I think the Court passes on leading and suggestive questions, and requires counsel to confine himself to a proper line of questions.

Mr. Sawyer: You are not calling for a ruling by the Commissioner?

Mr. Rieser: I understand on leading questions the Commissioner should rule.

Mr. Sawyer: I hardly think so. But upon that question I should say I do not believe it is leading within the rule, because the witness

has answered on this, and I am stating that I understand this to be his testimony.

The Commissioner: If you desire a ruling please read the question, Mr. Stenographer.

[fol. 30] (Last question read as follows: "I understand you to say from your information and your experience that the vessels between Chicago and Green Bay went through Death's Door?")

The Commissioner: Objection overruled.

To which ruling of the Commissioner the defendant, by its counsel, then and there duly excepted, and still excepts.

Mr. Sawyer: Now you may answer.

A. That is correct.

Q. When you came here, Captain, were there any lighthouses, lights burning?

A. None only on Plum Island and Rock Island.

Q. What light was burning on Plum Island at that time?

A. The original light that was built there, round tower, I understood, but I never saw it; but I saw the foundation of it. It was discontinued after they built this light that is there now. This light and the Pilot Island light were built the same year, 1858.

Q. The light that is now burning and what?

A. And then the light was discontinued on Plum Island after Pilot was built, and was rebuilt not a great many years ago, I don't remember how many.

Q. Now, the light that was burning when you first came, the old light on Plum Island, was that at the site of the present ruins of the old light house?

[fol. 31] A. Well, the old ruins are there yet, I guess. I haven't been there in a long time. The old light house wasn't ever used after Pilot Island was built.

Q. But it was in use after you came here?

A. It was the only light in the Door when I first came through.

Q. Was there any talk at that time as to which was the first light that was built here?

A. Not that I remember.

Q. Was there any talk at that time as to whether or not Rock Island was built on the location intended?

Mr. Rieser: I object to that for the reason it is hearsay, based on hearsay, and there being proof available on which the facts sought to be elicited from this witness may be established, and for the reason it is incompetent, irrelevant and immaterial.

Mr. Sawyer: Now you may answer.

A. The only person I ever heard talk much about that mistake was an old Englishman that lived not far from the lighthouse on Rock Island. He went there in 1852, he told me; and he used to talk about the light being built by mistake. He knew the first

keeper that was appointed to that light. He was an old soldier, an old American soldier.

Q. Did he say where it was intended to be built?

A. It was intended to be built on Boyer's Bluff.

[fol. 32] Mr. Rieser: I move that that answer be stricken out for the reason it is incompetent, irrelevant and immaterial, and for the same reasons as were advanced in the objection to the previous question.

The Commissioner: Gentlemen, I am not ruling on these objections unless you request it.

Mr. Rieser: No; that is all right.

Mr. Sawyer: Captain, how long did you continue sailing? How long were you engaged in sailing on Green Bay and adjacent waters?

A. Three or four seasons; I don't know for sure. I think I sailed from Washington Island for four different seasons.

Q. Were you on lumber carriers most of the time?

A. No. I was on a small vessel that belonged here in Washington harbor; it belonged to traders here.

Mr. Sawyer: I guess that is all.

Cross-examination by Mr. Rieser:

Q. Mr. Betts, before you came up to this Green Bay country where did you live?

A. I lived in Michigan on the Lake Huron shore, in St. Clair County.

Q. Then did you go to Chicago from there?

A. I went out to Missouri from there and stayed one winter and part of the summer, and then I come back by the way of Chicago.

Q. And you say at that time you went through Death's Door when you came to Green Bay?

A. Yes.

[fol. 33] Q. And you said that the commerce boats that were going between Chicago and Green Bay came through Death's Door?

A. Yes.

Q. Did they always go through Death's Door?

A. Why, I think so. They would naturally take the shortest route to get to Green Bay.

Q. Did stormy weather make any difference?

A. And that would be the shortest way to get into Green Bay.

Q. But did stormy weather make any difference in the course or channels that they would take?

A. I didn't get that.

Q. In a heavy storm, Mr. Betts, would that make any difference?

A. No. There is a place out here between Plum Island and Pilot Island they used to call the anchorage, and in the heavy storms there would be sometimes a dozen or more vessels anchored there in that anchorage. Inside of Pilot Island and right east of Plum Island was the anchorage, they called it.

Q. Those were boats that would generally come in from Green Bay to wait until the storm cleared up?

A. Yes; they would always anchor there if it was heavy weather, and wait.

Q. And wait until the storm had cleared up?

A. Yes.

Q. But boats from down on the lake, as they would come along the west shore of Lake Michigan, would they sometimes go on by the Door in stormy weather and come into Rock Island passage?

A. I don't think it. If they stopped at all they would stop here [fol. 34] on the anchorage if the weather was too rough to go into the lake.

Q. I mean coming from Lake Michigan, if they were out on Lake Michigan and were coming into Green Bay?

A. No; they would go through the Door, naturally.

Q. Even in stormy weather?

A. Yes. They called it the harbor when they got inside of Pilot Island.

Q. Didn't you hear there were quite a few dangerous reefs right out of that?

A. They always considered themselves in the harbor when they got into Green Bay.

Q. But just beyond Death's Door out in Lake Michigan didn't you hear there were quite a few dangerous reefs in early days, and that it was rather dangerous coming into Death's Door passage?

A. Why, yes.

Q. Now, you were a lighthouse keeper on Rock Island you say from about 1870 on; is that right?

A. Yes.

Q. There were quite a few boats used the Rock Island passage, too?

A. Oh, yes.

Q. What do you know as to what the course of those boats was, Mr. Betts? Where did they go to?

A. Well, all boats that were bound east would go through that way, on the north side of the island.

Q. North of Rock Island?

A. Yes.

Q. And when you say "bound east" you mean for the lower lake ports; is that what you mean?

[fol. 35] Mr. Sawyer: I am afraid he didn't understand that.

Mr. Rieser: For the lower lake ports, Detroit and Cleveland, and those ports; is that right?

A. They would all take the north passage, the Rock Island passage.

Q. They would all take the Rock Island passage?

A. Yes; they would have no occasion to go through the Door; that would be out of the way.

Q. Mr. Betts, they would take that passage for the same reasons that the boats for Chicago would take the Death's Door passage?

A. Yes, sir.

Q. That was because it was nearer?

A. Exactly.

Q. Isn't that right?

A. That is right.

Q. And boats, after they entered the Death's Door passage and went to lower Green Bay, Mr. Betts, went west of Chambers Island, didn't they?

A. Yes, went on the north side.

Q. North and west; isn't that right?

A. All the large boats went west; there was no room in the channels for the larger vessels.

Q. There was no room in the channel for the larger vessels, you mean?

A. Yes, sir. In case they met a heavy wind in that passage they couldn't maneuvre to any advantage, naturally, a big vessel in a narrow passage full of reefs.

[fol. 36] Q. That would be considered quite a dangerous passage in rough weather, wouldn't it?

A. Yes. Right abreast Fish Creek there is a bunch of rocks right in the middle of the passage, and at the west end of the passage there is the Hanover reef, and they have kept a spar buoy at the rocks in Fish Creek for a number of years now.

Q. You say for a number of years now?

A. Yes.

Q. But there wasn't any there in the early days?

A. No. When I first went sailing there they didn't know anything about any bunch of rocks there until one of the Buffalo propellers ran onto it one time.

Q. Did they use that passage at all through the Str-wberry Islands?

A. Yes; there was small propellers ran up from Buffalo to Green Bay, and they used to use that passage.

Q. That is the Strawberry passage?

A. Yes.

Q. But other boats would not use that passage?

A. Large boats would not go through there.

Q. These small boats that you refer to, Mr. Betts, so-called propellers, were boats that would engage in coastwise trade, that would stop at little stations along the Door County peninsula?

A. Yes, sir.

Q. And it would be more handy to use Strawberry passage for that reason?

A. They had to come into Fish Creek.

[fol. 37] Q. The only way to get to Fish Creek would be to use that Strawberry passage?

A. Yes.

Q. And this was when propellers were engaged in that business; is that right?

A. That is right, I guess. That is the way I remember the things.

Q. Now, you referred to the Buffalo boats in the early fifties; those boats made frequent trips to Green Bay, didn't they?

A. Yes. There was supposed to be a boat every week from Buffalo to the Bay, and one the other way.

Q. From the Bay to Buffalo?
A. Yes.
Q. And those boats all used the Rock Island passage?
A. Surely they did.
Q. And also went west of Chambers Island?
A. No.
Q. Did they go west or east?
A. They would go through the Strawberry passage.
Q. They went to Fish Creek?
A. They were little fellows; they were small propellers; they could go most anywhere.
Q. Would you say this: That any boat that was headed for the head of Green Bay, with no businesss between Rock Island and the City of Green Bay, would they take the course west of Chambers Island, or would they go through the Strawberry group?
A. Well, it would depend on the size of them. If they were large boats they would go west of Chambers Island; they would not risk it to try the Strawberry passage.
Q. And when you first came to this country there was a light also on the westerly side of Chambers Islands, wasn't there?
[fol. 38] A. No. That light was built after I went to Rock Island.
Q. The Chambers Island light was built after you went to Rock Island?
A. And the light on Eagle Bluff was built—I don't remember now when that was built; but it wasn't there when I first come to this country anyway.
Q. That is, the Chambers Island light?
A. The Chambers Island light was not built; and the Eagle Bluff light and the Sherwood Point light was built afterwards.
Q. At that time, Mr. Betts, when you first came to this country there was more or less logging and lumbering going on in that section of Door County, wasn't there, around Fish Creek and around there?
A. Yes.
Q. Some logging and lumbering?
A. Yes.
Q. And that country was just beginning to be settled up in the fifties?
A. Yes. When I first came here there was no road this side of Ephraim on the peninsula.
Q. Ephraim is how far from Green Bay?
A. That is four miles this side of Fish Creek.
Q. And where is that with respect to Sturgeon Bay?
A. About 28 miles from Sturgeon Bay.
Q. In what direction, north?
A. North.
Q. There was also considerable fishing going on in that vicinity at that time?
A. Oh, yes.
Q. And the boats that took the Strawberry passage practically all had some business to transact at Fish Creek?

[fol. 39] A. They brought supplies for the fishermen all along the shore, and the men that traded with the fishermen. Most of the supplies that come to the island come with these boats from down East.

Q. And that was why they took that shorter route?

A. Yes. They couldn't get there any other way.

Q. Now, you spoke about the light on Plum Island; that was burning, did you say, when you first came through Death's Door?

A. Yes.

Q. And that light was located at the point where the ruins are now located; is right?

A. Yes.

Q. In other words, the ruins that are there on that island now are the ruins of the light that you saw when you first came through Death's Door?

A. Yes; that is it exactly.

Q. At that time that lighthouse was well kept up, wasn't it?

A. Yes; it was pretty old fashioned at that time, but it was the only light there was in the Door.

Q. And it was taken care of by men in the employ of the government of the United States?

A. Yes; it was kept by an old gentleman by the name of Riggins.

Q. Riggins?

A. Yes, sir.

Q. And he was in the employ of the United States government.

A. He was a United States officer at that time.

Q. And didn't you at that time hear that that lighthouse was built about 1848, or '49?

A. I don't know. I have heard a report when that light was [fol. 40] first built, but I don't remember when it was. It was before I came here, of course.

Q. That report said that the United States government built that light; didn't you understand that? Didn't you understand that the United States government built that lighthouse?

A. Surely they did.

Q. It was always understood that the United States government built that lighthouse?

A. Why, certainly.

Q. And when I say that lighthouse I mean the Plum Island lighthouse.

A. I never heard of anyone building a private lighthouse.

Q. Yes, that is it exactly. Mr. Betts, when you first came to this country what other name was Rock Island ordinarily known by?

A. Louse Island.

Q. Did you ever hear it told why the sailors called it Louse Island?

A. No, I never heard it told why.

Q. They never told you that it was because it looked like one of these cabin lice?

A. No. But old sailors always called it Louse Island.

Mr. Rieser: I think that is all.

Redirect examination by Mr. Sawyer:

Q. Mr. Betts, do you know what Washington Island was called before they named it Washington Island?

A. No. It was Pottawatomie; the Indians call it Pottawatomie yet.

Q. Where is Eagle Bluff light located, is it located on the main-

[fol. 41] land?

A. Yes.

Q. Near Strawberry passage?

A. Yes, right at this north end of Strawberry passage.

Q. You spoke about the boats that went through Strawberry passage and stopped at Fish Creek and Ephraim; were those the Buffalo boats that came in the early days?

A. Yes. There was the old Rocket, and Comet, and Passaic. They would hardly make a yawl boat for some of the boats now.

Q. And these early propellers or steamboats that came through, these small ones, did they burn wood or coal in those early days?

A. Well, whatever they could get the handiest, I guess; mostly wood, I think.

Q. In your earliest experience here didn't they burn wood almost altogether?

A. I think they did. They burned more wood than anything else, I guess, up at this end of the route. They would coal down at Cleveland.

Q. Now, as to the boats that burned wood in your earliest experience here where would they get their wood?

A. They used to get a good deal at Washington harbor, and Fish Creek, and Egg harbor.

Q. Do you remember of a time when the Buffalo boats used to get their wood at Manitou Island?

A. I don't know. No, they never went to Manitou Island. They might get wood at Beaver Island, maybe.

Q. But you don't know of that fact?

A. No.

Mr. Sawyer: That is all.

[fol. 42] Recross-examination by Mr. Rieser:

Q. At that time, Mr. Betts, the traffic between Green Bay and Chicago was largely lumber and ore, wasn't it?

A. Yes.

Q. And after the iron mines started to be developed in Escanaba some iron ore would go through there, too?

A. Yes.

Q. But in the earliest days, when you first came to this country——

A. There was no iron shipped or mined around here from Escanaba when I first came here.

Q. What is that?

A. The iron industry started up long after I came here.

Q. And when you first came here about the only loads that these boats carried was lumber?

A. Mostly lumber.

Q. They would go down to Chicago loaded with lumber and come back light most of the time?

A. And bring supplies for lumber companies.

Q. And unless they had supplies they would come back light?

A. Yes.

Q. Would you say that practically all the commerce, at least in the early fifties and sixties through Death's Door for Chicago was lumber going down?

A. Yes.

Q. And supplies coming back; is that right?

A. Yes, that is right.

Mr. Rieser: That is all.

Mr. Sawyer: Whatever there was in general commerce would be [fol. 43] brought in the same channel, wouldn't it, any general merchandise?

A. Yes, I suppose so.

Mr. Sawyer: That is all.

Not being able to complete the taking of testimony of witnesses at this point at this time the further hearing of this cause was adjourned to tomorrow, Friday, August 29th, 1924, to be resumed at eleven o'clock A. M. at the same place.

And on Friday August 29th, 1924, at eleven o'clock A. M., pursuant to adjournment, the taking of further testimony on behalf of plaintiff was resumed at Washington Island, in Green Bay, United States of America, plaintiff and defendant being respectively represented by counsel heretofore mentioned.

Jacob Young, being duly sworn, on his oath testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. Please state you name?

A. Jacob Young.

Q. How old are you, Mr. Young?

A. I will be eighty years old the 12th of this coming December.

Q. You live on Washington Island?

A. Yes.

Q. How long have you lived here?

A. Since 1865.

Q. Where did you come from when you came here?

A. Well, I came from Chicago.

[fol. 44] Q. How did you come?

A. I came on a little—There was a man in Chicago, he was look-

ing for somebody to work, and he offered me good wages; Andrew Earle, you know him. We came down from Green Bay on a little schooner. He had a lot of supplies, and he hired a man to bring him down to the island, and I came along with him; that's how I came down to the island.

Mr. Rieser: May the record show that the testimony of the witness Young and the witness Knudsen may be taken subject to a motion to strike out after the testimony is written up, upon such grounds as the defendant may advance, except that the question was leading and suggestive?

Mr. Sawyer: That is satisfactory.

Q. You came from Green Bay here then you say?

A. Yes.

Q. On a little propeller or a schooner?

A. A little schooner, a small schooner.

Q. What course did you take up the bay?

A. We came through Strawberry Island passage.

Q. You have been a lighthouse keeper, have you, part of your life?

A. I was with him (indicating) on Pilot one year.

Q. You were with Mr. Knudsen on Pilot?

A. I was there one year with him as assistant. I was there six years.

[fol. 45] Q. You were with Mr. Knudsen on Pilot Island?

A. Yes.

Q. Was that before the present Plum Island light was built?

A. Yes.

Q. Were you ever on the Plum Island light?

A. No.

Q. How long were you on Pilot Island light?

A. I was there from '84 until 1890.

Q. Did you ever do any sailing?

A. No sailing; I fished.

Q. You have fished?

A. Fished.

Q. When fishing would you move about in these waters in boats? Did you use boats in fishing?

A. Yes, sail boats.

Q. And when did you commence fishing?

A. Well, I commenced fishing the first fall I came here, in 1865, fished for Andrew Earle, that brought me down from Green Bay. I fished for him by the month.

Q. Can you say what channel the boats passing, coming from Chicago and Milwaukee to the southern end of Lake Michigan would take in coming into Green Bay?

A. They came through Death's Door.

Q. Would it be the same thing going from Green Bay out to Chicago and Milwaukee?

A. Yes.

Q. After you were here was there a good many sail boats coming from Lake Michigan into Green Bay, at any time after you were here? I refer to wood traffic; was there a large wood traffic?

A. Oh, I thought you meant fishing. There wasn't much wood [fol. 46] traffic when I come here in the sixties.

Q. Not much then?

A. No, very little.

Q. There was some?

A. Yes.

Q. Where would that wood traffic go? Where would the vessels load, and where would they carry their wood?

A. They would load on the peninsula in Ellison's Bay, all the way on the east shore as far as Egg harbor.

Q. And where would they carry the wood?

A. They carried it to Milwaukee, principally to Milwaukee.

Q. Were you familiar with the Rock Island passage also?

A. Down here between Washington Island and——

Q. And St. Martins?

A. —and St. Martins, yes.

Q. The Rock Island passage; do you know that passage?

A. Yes.

Q. In those early days which passage had the most vessels, the Rock Island or the Death's Door?

A. Well, in the early days I think Rock Island passage had the most.

Q. What nature of boats would they have?

A. Two-masted sailing vessels, schooners with two masts.

Q. What were they carrying?

A. I think they must have been coming down here for lumber, or something; they was going up the bay.

Q. Did the Menominee boats go through Rock Island or Death's Door?

A. Some went east.

Q. Some went east?

A. Yes.

[fol. 47] Q. They would go through Rock Island, would they?

A. Yes.

Q. Then there were some that carried lumber to Milwaukee and Chicago and the southern big ports?

A. Yes, sir.

Q. Where would they go?

A. They would go through Death's Door.

Q. Do you remember the barge line called the Favorite, with three barges, that used to go from Milwaukee to Chicago?

A. Yes.

Q. They went through the Door, didn't they?

A. Yes, sir.

Q. Isn't it a fact that practically all the lumber carriers that went from Menominee and Peshtigo and Oconto to Chicago and Milwaukee went through the Door?

A. Yes, they went through the Door.

Q. Well, there was a great deal more lumber went to Chicago and Milwaukee than there was east at that time, wasn't there?
A. Yes.

Mr. Rieser: What time do you refer to, Mr. Sawyer?
Mr. Sawyer: In the early days.
The Witness: And later.
Mr. Sawyer: In the sixties and seventies.
The Witness: In the sixties there wasn't very much sawing done in Menominee, and what little there was they took up east; but after awhile they got mills built, and then they built big docks, and they went through the Door.

[fol. 48] Q. Do you remember when the N. Ludington Company mill was built in Menominee, or, that was before you were here, wasn't it?
A. I could not tell you.
Q. And all you know of vessels coming from Menomine and these lower ports loaded with lumber for Chicago and Milwaukee went through the Door?
A. Went through the Door.

Mr. Sawyer: That is all.

Cross-examination by Mr. Rieser:

Q. Your recollection is that that Chicago traffic from Menominee and in that region started a little after you came here, in the seventies and eighties; isn't that true, Mr. Young?
A. Yes.
Q. Now, what kind of boat did you come up to Washington Island on from Green Bay?
A. It was a little bit of a small schooner, two-master.
Q. Do you remember how many tons?
A. Oh, she wasn't very big, maybe twenty or twenty-five tons.
Q. And that boat stopped on the way at several places to do business before they got up here?
A. No; we come straight up here from Green Bay.
Q. At that time there were a lot of larger boats on the lake, too, weren't there?
A. Yes, yes.
Q. Sail boats, and so forth?
A. Yes.
Q. And most of those larger boats would use the passage west of Chambers Island, didn't they?
A. Those that came from Menominee, they used that passage [fol. 49] west of Chambers Island.
Q. Boats coming from Menominee and that region up there would use the passage west of Chambers Island entirely?
A. Yes.
Q. And that was true during later days, too?
A. Yes.
Q. Now, what can you say as to traffic for the lower lakes, for

Mackinac and Cleveland and Detroit, and all those towns? Which passage did that traffic take, I mean out of Green Bay, the Rock Island or the Death's Door passage?

A. They came through Strawberry passage.

Q. No; I mean from Green Bay going out on to Lake Michigan, which passage would they take?

A. Of course if they loaded at Menominee they had to come through here.

Q. Boats going for the lower lakes, Mr. Young, out of the waters of Green Bay, would they use the Rock Island passage or Death's Door passage?

A. They used the Rock Island passage.

Q. Altogether?

A. Pretty much, yes. Yes, they used that altogether.

Q. Altogether?

A. Yes.

Q. And in the early days boats coming from Menominee and Escanaba and that region, they all, of course, would go north and west of Chambers Island?

A. Those that come from Menominee, they went to the west of Chambers Island and passed up here (indicating) Rock Island; and from Escanaba they would come over this way (indicating), [fol. 50] and then they took the Rock Island passage here (indicating).

Q. And some of the boats would also take the Poverty Island passage?

A. They did after the light was built. You know there was no lighthouse there until 1875, and they couldn't get through there.

Mr. Sawyer: Not before that.

A. Not before that. But they had to take this passage here (indicating), because there was no light there; and after the light was built then they used that passage.

Mr. Rieser: And the Buffalo boats that you have referred to, those were boats that sailed from Buffalo into Green Bay?

A. Yes.

Q. About one a week each way; isn't that about what their sailings were?

A. There was two boats and we had a boat here once a week. I can tell you the names of the boats, and the captains, too.

Q. And those boats would use the Rock Island passage?

A. Yes.

Q. Both coming and going?

A. Coming and going, yes.

Q. Now, you say when you first came into this country there was very little wood traffic; is that right?

A. That is right, yes.

Q. And not very much lumber traffic either?

A. No.

Q. And most of that traffic, of the lumber traffic when you first came here was down to the lower lakes?

[fol. 51] A. Yes.

Q. And by "the lower lakes" you understand that to mean Lake Erie, and those lakes; is that right?

A. Yes.

Q. Was there a light on Chambers Island when you first came into this country?

A. No.

Q. That was built a little later, 1868, do you recall?

A. I think it was built in '68. Chambers Island and Eagle Bluff was built the same year, both lights.

Mr. Rieser: I think that is all.

Redirect examination by Mr. Sawyer:

Q. Just a few more questions. The earliest lumber traffic that you know of largely came from south of Menominee, didn't it, down in Oconto and Green Bay?

A. That I could not tell you.

Q. That was before you came here, wasn't it, some of it?

A. I know there was some lumber; whether it came from Oconto or Menominee or Peshtigo I don't remember.

Q. Isn't it a fact that the lumber barges that came from Oconto and Peshtigo and Green Bay would come up the Strawberry channel, and those from Menominee came to the west of Chambers Island?

A. No. It was too dangerous; they couldn't come through there.

Q. They didn't come through there?

A. Too much shoal water.

Q. Are you speaking of that from having seen them, or just from your understanding? Did you used to be on any of those boats, or hear them talk about it?

A. No.

[fol. 52] Q. That is just your understanding, that they would not go through there because of the shoals?

A. Well, they came west of Chambers Island; and every now and then one would fetch up on Whaleback reef.

Q. Whaleback reef is northwest of Chambers Island, isn't it?

A. It is northwest of Ellison Bay.

Q. Northwest of Ellison Bay and north of Chambers Island?

A. Yes.

Q. Was there a good deal of traffic with the east ports along the Strawberry passage in the early days?

A. Well, there was nothing more than wood.

Q. Well, didn't the vessels go in there to trade with those inhabitants, small steamers?

A. Well, I went with the Sarah Van Eps in 1866, Captain Pitman.

Q. You went along that channel, did you?

A. Yes, right up here (indicating), Strawberry Island.

Q. Isn't it a fact, Mr. Young, that in the early days of your life here most of the lumber that was shipped out went to the growing ports of Chicago and Milwaukee?

Mr. Rieser: Just a moment; I object to that for the reason it is leading and suggestive, and cross examining his own witness.

The Commissioner: Objection sustained.

To which ruling of the Commissioner the plaintiff, by its counsel, then and there duly excepted, and still excepts.

Mr. Sawyer: What can you say as to where most of the lumber [fol. 53] went in the very earliest days, to Chicago and Milwaukee, or did it go down the Buffalo line?

A. Well, that is a pretty hard question to answer.

Q. Well, of course, if you can't answer it, just say so; but if you can I would like to have your answer.

A. I know after—in the seventies it began to go to Chicago, I guess mostly to Chicago; but in the early days I know there was vessels came up through the Rock Island passage, and whatever they carried of course must have been lumber, and they took some down east; those lumber ships went down east.

Q. Now, if you would recall that Chicago began its growth in the thirties would that have any effect on your memory as to where the lumber in the early days was shipped?

A. No. In 1830?

Q. About '34, or '35?

A. I don't know as there was any saw mills then.

Q. Where did the lumber come from that you say was taken to the lower lakes in the seventies, sixties or seventies?

A. Well, it came from Menominee, maybe some from Oconto, and some from Peshtigo.

Q. Isn't it a fact that a large portion of the lumber of Menominee went to Chicago?

Mr. Rieser: I object to that, for the reason it is cross examining your own witness, leading and suggestive.

The Commissioner: Objection sustained.

To which ruling of the Commissioner the plaintiff, by its counsel, [fol. 54] then and there duly excepted, and still excepts.

Mr. Sawyer: You recall I think I asked you a little while ago about the barges Favorite with three vessels in tow; they went to Chicago, didn't they?

A. Yes.

Q. And they were from Menominee?

A. The tug Favorite and the tug Perritt.

Q. And how large a tow did they have?

A. I have seen them pass through that island when I was tending light with five barges.

Q. And they all went to Chicago?

A. They all went to Chicago.

Q. And is it a fact that the lumber companies of Chicago and Menominee and Marinette, practically all of them had their head offices in Chicago?

Mr. Rieser: I object to that for the reason——

A. I don't know; I could not answer that.

Mr. Rieser: All right.

Mr. Sawyer: Well, do you know whether or not these companies, most all of them shipped their lumber to Chicago?
A. The tug Perritt, I know that went to Chicago.
Q. And the Favorite?
A. And the Favorite, and the Bosca Belle.
Q. And the Bosca Belle?
A. She carried lumber from Oconto and Peshtigo.
[fol. 55] Q. Do you remember how many tows a week the Perritt and the Favorite would make?
A. The Perritt would make two a week.
Q. And how about the Favorite?
A. I don't know.
Q. You remember Captain Hutchinson, of the Favorite?
A. No.
Q. You don't know how many it made a week then?
A. No.
Q. Was there any towing line or barge line that ran to the lower lake ports through Mackinac, or were they single schooners?
A. They were single schooners in here, as I remember.
Q. Can you tell the names of any of them?
A. Not the schooners, no, I couldn't.
Q. Could you tell how many a week would go through?
A. No, I couldn't do that. That I could not do.
Q. Speaking of the Strawberry channel, what is the nature of the shore of the peninsula along there, very picturesque, or very plain?
A. What do you mean, concerning the depth of the water?
Q. No, the shore: is it a beautiful shore, or is it plain?
A. Up the shore here (indicating)?
Q. Yes.
A. Oh, it is fine, bluffs and cliffs.

Mr. Rieser: We will concede for the purpose of the record that it is one of the picture spots of the United States, Mr. Sawyer.
Mr. Sawyer: All right. We wanted that before the Court. I [fol. 56] think that is all.

Recross-examination by Mr. Rieser:

Q. Mr. Young, about when do you recall that the boats Bosca Belle, Perritt and Favorite started towing lumber? Was that after you came to this country?
A. I seen them go past Pilot in '84, the first summer I was there.
Q. That is as far as you know about the earliest time you saw these tows, '84?
A. Because I was on Pilot, and I seen them go right by there.

Mr. Rieser: I think that is all.
The Witness: '84. I could not tell you about previous to that.
Mr. Rieser: That is all.

MARTIN KNUDSEN, being duly sworn, on his oath testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. Please state your name?
A. Martin Knudsen.
Q. Mr. Knudsen, how old are you?
A. Seventy.
Q. And how long have you lived on Washington Island?
A. I would have to figure that, because I have been here off and on so many times.
Q. When did you come here first?
A. I come here in '66.
Q. How did you come, by boat, or otherwise?
A. We came by the Goodrich Steamer, Bacchus, F. W. Bacchus. [fol. 57] Q. And where from?
A. Racine.
Q. How did the boat come into the Bay, this Goodrich boat?
A. Come in through the Door.
Q. Through Death's Door?
A. Yes.
Q. What has been your business since you have been here?
A. Well, since 1880 I have been light keeper.
Q. And before that, from '66 to '80 what was your business?
A. Well, I have been fishing, coopering, and farming.
Q. In fishing would you be out on boats any of the time?
A. Yes, sir.
Q. Are you familiar with the Death's Door and the Rock Island passages as they were at that time?
A. Yes, sir.
Q. What would you say as to which passage was used the most by boats that were going from Green Bay to Chicago, and from Chicago to Green Bay?
A. Well, Death's Door passage generally; but it would depend somewhat on the winds.
Q. Were you here before they commenced shipping ore from Escanaba, or had the ore shipping begun?
A. They were shipping ore.
Q. What can you say as to where the lumber barges went, the barges that carried lumber from Menominee and Green Bay and Oconto, which passage would they take?
A. Which class do you refer to? Do you mean schooners or barges?
Q. Schooners and barges?
A. Schooners and barges. Well, if they were bound to the south ports they took Death's Door passage, and if they were bound the [fol. 58] other way, why, they went through Rock Island.
Q. Do you have any knowledge as to where the most of the lumber was shipped, whether it was south or east?
A. Well, that is pretty hard telling, because, of course, the

smaller vessels traded south a great deal; but you take the large schooners, the Halihan and the Onagon, and those other big schooners, they traded east.

Q. They were later schooners, weren't they, those very large ones?

A. No.

Q. Were they early?

A. Those were among the earliest ones; and the Erastus Corning.

Q. Can you tell how long it would take one of those large schooners to make this trip from Buffalo through to the lumber ports and back?

A. Well, that is a hard question I have a record of a schooner going from Chicago to Buffalo in four days and sixteen hours; but then it was blessed with a fair wind all the way. That depends altogether on the winds; so it would be practically impossible to state that. They might possibly make it in a week, and it might take them two weeks, or three weeks. It depends altogether on the wind.

Q. You would say that practically all of the Chicago lumber vessels went through Death's Door?

A. Yes, sir.

Q. Do you know anything about how the boats used the passages to Green Bay, which channel in Green Bay they used generally, the early boats?

[fol. 59] A. The early boats always took the one west of Chambers Island.

Q. The early lumber boats?

A. Yes, sir.

Q. Do you know anything about the traffic of the east ports of Green Bay?

A. The east ports after the wood era came, yes.

Q. What was it then?

A. Those vessels came all along the shores inside of the—they went just as the circumstances required.

Q. Went where the trade was, I suppose?

A. Where the trade was. Of course, these was trading into every bay there was.

Q. Now, do you know where the anchorage is located at the east end of Death's Door, near the east end of Death's Door?

A. Yes, sir.

Q. Have you any idea why that anchorage was located there?

A. Because it was a good shelter.

Q. Has that been the anchorage from the earliest time that you know?

A. Always.

Q. There have been a good many wrecks in early days, haven't there, in Death's Door?

A. Yes, sir.

Q. Do you know of any number of wrecks in the other channels, Rock Island channel?

A. Yes, I do.

Q. Were there many?

A. Well, I don't—There was quite a number that were wrecked on the Fisherman's shoal, and that were wrecked in the middle ground between St. Martins and Rock Island, and some over on Poverty.

Q. I am speaking especially of Rock Island. Fisherman's shoal [fol. 60] is out from Rock Island passage, isn't it?

A. Yes, sir.

Q. But there were many more wrecks in Death's Door, weren't there?

A. Oh, naturally.

Q. Now, in the anchorage, if the boats held anchor they were safe there, weren't they?

A. Well, not always.

Q. I mean if they would hold their anchor?

A. Yes; but they sometimes didn't.

Q. In a very hard storm they might break from their anchorage, and then they would go onto the rocks; is that the idea?

A. Yes, sir.

Mr. Sawyer: That is all.

Cross-examination by Mr. Rieser:

Q. Now, when you refer to the wrecks of these various vessels, Mr. Knudsen, what period of time do you refer to?

A. That is when the wood era began.

Q. The wood era began in the seventies or eighties, did it?

A. Seventies.

Q. Now, you spoke about traffic to the south ports; what do you mean by the south ports?

A. Well, Chicago, Milwaukee, Racine.

Q. You mean the south ports of Lake Michigan?

A. Yes.

Q. And when you said "down the other way" you meant the ports on the lower lakes, like Detroit and Cleveland, and those ports; is that right?

A. Yes, sir.

Q. You spoke also about most of the traffic for Chicago, and so forth, and the south ports going through Death's Door?

[fol. 61] A. Yes, sir.

Q. And then you stated it depended, however, somewhat on the winds; will you explain just what you mean by that?

A. If you have got a strong breeze, for instance, with a southeast wind you can lee right through Rock Island passage; they would go through there because they would have the least sea, and shoot out into the passage and stand off. With the wind northwest it was practically impossible for any vessel to beat through that Door; it can't be done in a storm.

Q. Through Death's Door?

A. No. They would go around then through the other passage, because there they have plenty of room.

Q. And when you say "the other passage," that is Rock Island?
A. Yes, sir.
Q. And then they would stand to when they got out; would stand to where?
A. Stand to out there, and they could sail through without any danger on account of any currents. The current through Death's Door with a northwest wind, it is practically impossible to beat through.
Q. And a northwest wind when you have storms is quite common, isn't it, when you have bad storms?
A. Oh, yes, you have them quite frequently.
Q. Now, when you came to this island, Mr. Knudsen, about how old were you?
A. Twelve.
[fol. 62] Q. Have you ever held any office on the island of any kind?
A. Oh, yes.
Q. What office?
A. I have been Justice of the Peace.
Q. Do you recall when you were first elected Justice of the Peace?
A. No, I don't.
Q. Well, was it in the seventies?
A. It was.
Q. And under what jurisdiction did you serve during those terms of office, Mr. Knudsen, under Wisconsin or Michigan?
A. Wisconsin.
Q. You are also a property owner on Washington Island, aren't you?
A. Yes, sir.
Q. Where have you been paying your taxes during the years you have lived on Washington Island?
A. Wisconsin.
Q. Were you ever on the county board?
A. No, sir.
Q. To what county has Washington Island and the town government of Washington Island belonged during the period you have been on Washington Island?
A. Door County.
Q. And Door County, Wisconsin you refer to?
A. Yes, sir.
Q. Now, you are familiar also with the islands north of Rock Island, aren't you?
A. Yes, sir.
Q. St. Martins Island?
A. Yes, sir.
Q. Is that a populated island?
A. Not now.
Q. Are there any people on that island to speak of?
A. None at all, only the light keeper, and a logging party now.
[fol. 63] Q. That is also true of practically all the islands north

of the Rock Island passage; they are not populated, like Washington Island is?

A. No, sir.

Q. Where does the business that is being carried on, Mr. Knudsen, between Washington Island and the outer world go? Does it go to the north portion of Michigan, or what direction does it go?

A. It goes south.

Q. Into Door County?

A. Yes, sir, Door County, and Milwaukee and Chicago.

Q. You get your mail from the Door County peninsula, too, do you not?

A. Yes, sir.

Q. That has been true since you have been on the island?

A. Yes, sir.

Q. What can you say as to what would be the nearest county seat to Washington Island in Michigan?

Mr. Sawyer: Let it be understood that Objections on the part of both parties are covered by the original stipulation.

A. I would naturally say it would be Escanaba.

Mr. Rieser: Do you know about how far it is to Escanaba?

A. No, I don't.

Q. Is there any intercourse or communication between Escanaba and Menominee in the winter time by water?

A. Not that I know of.

Q. Where do you transact your business, and where does your mail come, and where does your commerce go to in the winter time? [fol. 64] A. Goes to Sturgeon Bay.

Q. And that goes over the ice right out of Washington Island, does it?

A. Yes, sir.

Q. Through the passage here, Detroit harbor, and then over Death's Door, in that region?

A. Yes, sir.

Q. And in the winter time that course is followed by teams with sleighs?

A. Yes, sir.

Q. Is that also true out from Washington Island up to the upper peninsula of Michigan at all points?

A. Occasionally.

Q. Would it be true every winter?

A. No.

Q. Is it true in the use of Death's Door every winter?

A. Yes, sir.

Mr. Rieser: I think that is all.

Redirect examination by Mr. Sawyer:

Q. It is true, too, isn't it, that the ice in Green Bay freezes so that there is traffic by team over it between Menominee and the east shore of the bay every winter?

A. Yes, sir.

Q. So that they could travel by ice from Washington Island to Menominee, on ice every winter by team?

A. Yes, sir.

Q. Can you tell which are the prevailing winds? I don't mean whether hard or light. Which direction do you have the most of the winds from?

A. West and northerly in the fall and southerly in the summer.

[fol. 65] Q. Isn't it southerly and southwesterly?

Mr. Rieser: I object to that as cross examining your own witness.

The Commissioner: Objection sustained.

To which ruling of the Commissioner the plaintiff, by its counsel, then and there duly excepted, and still excepts.

Mr. Sawyer: I wanted it distinguished as between——

A. Well, southerly would cover it, southwest and southeast.

Q. Then I will ask you this question: During the summer would there be more from the southwest, or from the southeast?

A. Well, I could prove that if I had the old lighthouse record here.

Q. You used to keep a record of that, did you?

A. Yes, sir.

Q. What would be your idea as to which was the most?

A. It depends quite a bit on the temperature. A very warm day brings in southeast and easterly winds, and colder days they are generally from the west and northwest. But that would depend somewhat on the temperature.

Q. Where are your heaviest storms mostly from?

A. Well, the most violent storm that I have ever seen, that is, which we felt the most, was on the 16th day of October in 1880, when the Goodrich boat Alpina was lost.

Q. Which direction was that wind from?

A. That wind went from the northeast to the southwest, and around south.

[fol. 66] Q. Well, isn't it true that a large number of your heaviest storms are winds from the northeast?

Mr. Rieser: Objected to as leading and suggestive, and cross examining your own witness.

The Commissioner: Objection sustained.

To which ruling of the commissioner the plaintiff, by its counsel, then and there duly excepted and still excepts.

Mr. Sawyer: You think your heaviest one was from the northeast?

A. Northeast to east, and southeast and southwest; that is the way the winds went.

Q. You could not distinguish between them then as to which would have the most?

A. That is where that particular storm went; it veered that way.

Q. Now, I will ask you another question, then. I will ask you

now from which direction the largest number of your heavy storms come?

A. Northwest.

Q. Northwest?

A. Yes.

Q. Larger than from northeast?

A. Oh, yes; we get more of them.

Mr. Sawyer: That is all.

Mr. Rieser: I think that is all.

There being no further witnesses called at the above mentioned time and place the taking of further testimony was adjourned to Tuesday September 2nd, 1924, to be resumed on that date at Sault [fol. 67] Ste. Marie, Michigan. And pursuant to adjournment the taking of further testimony on behalf of plaintiff was resumed this 2nd day of September, 1924, at Sault Ste. Marie, Michigan, plaintiff and defendant being respectively represented by counsel heretofore mentioned.

Captain FRANK D. ROOT, being duly sworn, on his oath testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. Your name is F. D. Root?

A. Frank D. Root.

Q. Captain Frank D. Root. And will you tell the Commissioner your age?

A. I will be seventy-five the 7th of October.

Q. And where were you born?

A. Green Bay, Wisconsin.

Q. You now live here at the Soo?

A. Yes, sir.

Q. And how long have you lived here, approximately?

A. Since 1902.

Q. Before that had you been familiar with the conditions on Green Bay generally?

A. Sure.

Q. Since when?

A. Since '68, '69, along in there.

Q. For a short interval then between your birth and the time you became familiar with the bay you were away, were you?

A. I was away, yes, sir.

Q. Since '68 or '69—what was your business before you came to the Soo?

A. I was sailing a steam boat, and sailing a vessel; and I went from cook up to master of a boat.

[fol. 68] Q. And what is your present position?

A. I am local manager of the Great Lakes Towing & Wrecking Company, of the Soo. It is called the Townsend Towing & Wreck-

ing Company; it is a subsidary of the Great Lakes towing & Wrecking Company.

Q. What can you say as to the nature of the craft that sailed on the Bay in the early days, as to whether it was large or small?

A. They were all light draft generally would run up the Bay. In fact, along in the eighties going to Buffalo you couldn't draw over sixteen foot, at the outside; fifteen foot and a half or sixteen foot was the outside.

Q. Where was the principal traffic on the Bay in those earliest days before the eighties that you spoke of?

A. The bigest traffic was mostly in lumber hookers trading up the Bay; and then there was the Goodrich boats that run up and down from Green Bay to Buffalo.

Q. As to the very earliest traffic, when you spoke of becoming familiar with the Bay in '68 or '69, where was the principal port on the Bay at that time?

A. Green Bay.

Q. And have you known generally of it before that?

A. Why, yes. I was born there on Green Bay.

Q. And how would the boats generally run from Green Bay to get out into Lake Michigan?

A. Generally they would go around to the west of Chambers Island.

Q. And then where?

A. Out through the Door; and when going to Buffalo they would [fol. 69] go out through Rock Island passage.

Q. And what was the comparative amount of trade as between those going to Chicago and those that would go to Buffalo?

A. Well, some of them went to Chicago and some of them went to Buffalo. They went on the east side.

Q. But were there more to Chicago or more to Buffalo?

A. Oh, there was a very few boats that traded to Buffalo. They all went generally the east shore then. They were small boats, and went there to load up, to wood up.

Q. The Buffalo boats went through Strawberry channel?

A. The Buffalo boats went through Strawberry channel and they used to wood up in Strawberry Bay and Fish Bay.

Q. Those were small steamers?

A. Small sized steamers, yes.

Q. Was it before or after they started lumber operations that you say they went west of Chambers Island?

A. The steamboats I guess all went through west of Chambers Island. Very few of them went that passage through there (indicating). But if you would go over here to the Government and get a chart of Green Bay that would show you pretty near.

Q. Yes, I have the chart, Captain; but what we want to know is your recollection as to how the boats ran.

A. All steamboats and outside boats, they all went through west of Chambers Island. There was very few steamboats in those days, you know.

[fol. 70] Q. But you say the small Buffalo boats went east?

A. They were good sized propellers.

Q. But they took the course along the east shore?

A. They went along through the east shore channel.

Q. That is what we call Strawberry channel?

A. Strawberry passage, yes.

Q. Strawberry passage. Where did the Goodrich boats always run, if you know?

A. They used to run up Green Bay.

Q. I know, but which passage, do you remember.

A. They used to go through the Strawberry passage, but now they don't go there at all. Now, they go out through Sturgeon Bay.

Q. You mean through the canal there?

A. Through the canal; they don't go out through Door County at all, through the Door, unless they go to Escanaba.

Q. If they were going to Escanaba they might come up through the Strawberry channel?

A. I don't think so.

Q. You haven't seem their route, have you?

A. No; I don't know where they stop. The water, you know, now is four or five feet lower than it was at that time, too, you know. That used to cut a big difference. A deep draft boat couldn't go through there.

Q. But we are after, Captain, how they went in the early days?

A. That is the way they went. All lumber boats all went to the westward, and the Goodrich boats and Buffalo boats traded to the eastward.

[fol. 71] Q. What kind of vessels did you sail on?

A. I was on sail boats, steam boats and steam barges.

Q. How often would you sail through the Bay?

A. I haven't been through the Bay, that is, up to Green Bay for quite a long time.

Q. I mean in early days how often would you make trips through there?

A. Used to make two week trips.

Q. Two week trips?

A. Yes.

Q. Where did you usually go?

A. We went through——

Q. I mean to what other port?

A. We started from Green Bay, first stop would be Egg harbor, or Fish Creek; and then go to Washington harbor, and from there we would go on down to Detroit, and then to Buffalo.

Q. From Fish Creek what course did you take to Washington harbor?

A. I couldn't tell you now; but we went through the Strawberry channel.

Q. I am not certain that you answered this, Captain, but what passage into the lake would the Chicago boats usually take?

A. When out on the lake?

Q. Yes.

A. Out through the Door passage.
Q. And coming from the lake would they take the same?
A. They would come in that way. They couldn't come in through any other way, unless they went around Rock Island.

[fol. 72] Mr. Sawyer: That is all.

Cross-examination by Mr. Rieser:

Q. When you first started working on the lake you say you were a cook?
A. No; I was boy on the boat first, and then I helped do everything.
Q. What was that occupation? What did you do as boy on the boat?
A. I would do everything they wanted you to do.
Q. Anywhere they would kick you around to?
A. Yes.
Q. So you would be up on the deck, and all over?
A. And all over.
Q. At that time you say was about 1868?
A. That is when I first went to sailing through the Bay.
Q. Do you recall where you went on your first trip?
A. The first trip through the Bay, you mean?
Q. Yes.
A. We didn't go through there; we went to the westward of Chambers Island, and I think we went down there after fish.
Q. After fish?
A. Yes, on a schooner.
Q. Where did you go after fish?
A. I think we went down, up in Little Bay De Noquet.
Q. Your first trip into Lake Michigan, where did you go on that trip?
A. I think I was sailing on a schooner then. We went from Chicago.
Q. To Chicago, or from Chicago?
A. We were sailing out of Chicago, going down in—I think we went to Oconto for lumber.
[fol. 73] Q. And going to Oconto you would then take the passage west of Chambers Island?
A. Yes, with a sailing boat, yes.
Q. That was the universal practice you say for sail boats?
A. Oh, yes.
Q. The reason being that the Strawberry passage was hardly wide enough for sail boats?
A. No; it wasn't that. Strawberry passage wasn't lit at all; there was no light, or any stakes, or anything at all going through there them days; and if we come in through the other there was a light on Chambers Island, and another light on Peshtigo shoals.
Q. That marked a course entirely west of Chambers Island that you have described?
A. Yes.

Q. And that course was followed by sailing vessels?
A. Sailing vessels and steam boats, yes.
Q. And steamboats?
A. Yes.
Q. The boats that took the Strawberry channel, you would say, would you, that they took it principally because of the handiness to wood, and so forth?
A. Wood and so forth; but they had to go through there in daylight.
Q. They had to go through there in daylight?
A. You couldn't go through there in the night at all.
Q. Not in the night at all?
A. No. There was no light at all.
[fol. 74] Q. But the boats could sail west of Chambers Island in the dark?
A. Yes; there was a light there.
Q. So you would say the west channel, or the channel west of Chambers Island was the channel for both day and night passage?
A. Yes.
Q. And the channel through the Strawberry group was only through the east channel?
A. A man that didn't know that channel couldn't get through there.
Q. And without a light you would say also that the Rock Island passage——
A. There was also a light at Rock Island. That is one of the oldest lighthouses.
Q. But it wouldn't be a safe channel to take without lights, would it?
A. In the day-time they would if a fellow could see.
Q. But at night?
A. No.
Q. At night it couldn't be done?
A. Well, it could be done.
Q. If you wanted to take a chance?
A. Yes, if you wanted to take a chance.
Q. But with a light at Rock Island passage and no light at Death's Door your judgment would be that a careful sailor would take the Rock Island passage at night?
A. There was a light at Death's Door, always has been.
Q. But there being no light there——
A. A fellow wouldn't want to go in there at all.
[fol. 75] Q. No.
A. He would be a damn fool if he did.
Q. He would naturally go through the safe passage?
A. Yes. Lucky to get through there in the day time.
Q. At Rock Island?
A. Yes, either one; Death's Door or Rock Island has a regular channel, either one, and you have to stay in the channel.
Q. And Death's Door is particularly hard to follow?
A. It ain't no worse than Rock Island.

Q. You don't think it is any worse?

A. No.

Q. And isn't this true, however, Captain: that in case of a severe storm, especially a northwest storm, that the sail boats would ordinarily take the Rock Island passage?

A. Well, northwest they couldn't come through there either way. They can't beat through there north; they may west come through there if they come down far enough.

Q. Through Death's Door?

A. They would have to beat in through Death's Door in the day time.

Q. What about at night?

A. At night they wouldn't try to beat in there at all.

Q. Even with lights in the dark?

A. No.

Q. At that time, Captain, in 1868, would you say there were more sailing vessels sailing Green Bay than steam boats?

A. There was very few steam boats on the water here.

[fol. 76] Q. Steamboats were coming in rather rapidly between that time and the eighties?

A. No; steamboats didn't come in until along in the eighties.

Q. Can you give us any estimate about how many steam boats there were operating in Green Bay in the late sixties and the early seventies?

A. Well, there was two steam boats, or three steam boats owned by the Chicago & Northwestern Road running from Escanaba to Green Bay before the road was built through to Menominee, and then there was two or three little side-wheel boats traded around the shores in Green Bay, gathering up fish, and like that.

Q. That would be about all the steam boat traffic?

A. No. The Goodrich had a line of boats, I think every week, or maybe twice a week afterwards.

Q. Any other boats?

A. Then there was two boats running from Buffalo, the Rocket and Comet; they used to carry passengers and freight from Buffalo.

Q. And one of those would be in about once a week?

A. Yes, would make a trip about every two weeks.

Q. Would make a trip about every two weeks?

A. Yes.

Q. That is the two of them?

A. Yes.

Q. Would you say that was substantially all the steam boats in the sixties?

[fol. 77] A. That was substantially all the steamboats there in the sixties. The Northwestern Railroad Company carried their freight through long before that. These side-wheelers couldn't carry all the freight, and they had I think a couple of steamers that just carried freight.

Q. Now, compared with those steam boats you have given us there what can you say about the sail boats? How many of those were there?

A. There was a lot of those.

Q. Would you say there were fifty of those supplying the trade——

A. Oh my God! There was hundreds of them. They were carrying goods out of Green Bay, Menominee, Oconto, Ford River, and all along there.

Q. And then there would be a large number of those boats that would be towed by barges, too?

A. There was some of them towed afterwards.

Q. There would be two or three of those barges?

A. There would be two or three of those barges.

Q. And they would be towed by a steam operated boat or tug?

A. Yes.

Q. And vessels of that kind couldn't go through Strawberry passage at all, could they?

A. Oh, no.

Q. In your early boyhood can you say, Captain, you could remember back to 1860?

A. No, not very well. Of course I could remember back about [fol. 78] '60, and before that.

Q. As to whether or not there were more or less steam boats coming into Green Bay in 1860?

A. I guess there was no steam boats at all then.

Q. There weren't any at all?

A. There may have been one or two.

Q. That would be your recollection?

A. Yes. Of course, the Northwestern Railroad, when they had the road built into Green Bay—they run to Sand Point first, used to go up to Masonville, and that is Escanaba now.

Q. Those are points on the westerly shore of Green Bay now?

A. Yes, sir. They used to run to Masonville; then Escanaba was called Sand Point.

Q. Outside of these Northwestern Railroad steam boats in the early sixties there were very few of any steam boats come into the Bay?

A. I don't think any at all; maybe a few little side-wheelers run up and down there.

Q. But you would say there were practically as many sail boats coming into Green Bay——

A. There was lots of sail boats way up to Depere, and in the lumber trade. That was a great place for shingles, and stuff like that.

Q. From your experience you would also say, wouldn't you, that [fol. 79] all traffic heading for the lower lakes, Detroit, Cleveland and Buffalo, and those regions, all went through the Rock Island passage out of Green Bay?

A. Yes.

Mr. Rieser: I think that is all.

Redirect examination by Mr. Sawyer:

Q. Where would the majority of the sail boats go, to Chicago, or——

A. Well, yes; they all went to Chicago, and Milwaukee; some went to Milwaukee, quite a number.

Q. And those that went south you say all went through the Door?

A. They went south that way, through the Door; and afterwards there was quite a lot of staves went out of there; and this big, what you call pine lumber went out there, that they shipped out there for foreign market; and then there was some timber drovers come up here and loaded there and took it down to Kingston, and then it was shipped from there to Montreal and Quebec.

Mr. Rieser: That would be the lower lakes, Captain?

A. Yes, sir. Those were called bunk pine, or deals, and that was all sawed, I think, three or four inches, you know.

Mr. Rieser: If I may interrupt, to get that clear as we go along, that was lower lake traffic?

A. Yes.

Mr. Rieser: And that was traffic that went through Rock Island [fol. 80] passage?

A. All went through Rock Island passage.

Mr. Rieser: Pardon me for butting in.

Mr. Sawyer: That was only an occasional boat that came after those deals?

A. Yes.

Q. Once in a great while?

A. But there was an awful lot of staves down there.

Q. Do you remember of an anchorage in Death's Door?

A. Oh, yes.

Q. What can you tell us about that anchorage?

A. Well, the boats used to go to anchorage there.

Q. In case of storms?

A. Case of wind from southwest or southeast they generally made their anchor until the wind got around further, and away they would go.

Q. What would you say as to that being a safe anchorage?

A. Yes, it was a safe anchorage.

Q. In speaking of the light at Strawberry passage, after the light was there then it was just as safe to go through the Strawberry passage as it was to go west of Chambers Island, for small boats?

A. Oh, no; I don't think a big boat could go through there.

Q. I say for small boats?

A. No; it was generally crooked in there; and if there was a light there, if they marked the channel as straight as the river of [fol. 81] course they could follow it; but I don't think a fellow could go through there.

Q. How long did you continue sailing on Green Bay?

A. I didn't sail up there only—Oh, along '74, or something like that. And then I sailed below Green Bay.

Q. And after that did you come up at all?

A. No; after that I never went out of the bay at all.

Mr. Sawyer: That is all.

Recross-examination by Mr. Rieser:

Q. You say about this anchorage, that would be used by boats coming out of Green Bay to wait until a storm on Lake Michigan would go away?

A. Not a storm. They used to go to anchor there, the little fellows, when the wind was southwest or southeast blowing hard they would come in there and get into anchor and lie there until a favorable wind come up, until the wind calmed down, or the wind got fair, and away they would go.

Q. The boats that anchored there generally were boats coming out of Green Bay?

A. Coming out of Green Bay, going to Milwaukee, or going to Chicago.

Q. Do you know it to be a fact, Captain, that about the late sixties, or early seventies, quite a number of Green Bay boats established yards and distribution centers at Chicago?

A. They all had yards in Chicago generally; but I think before the seventies, or along there, the lumber all had to go on the market. [fol. 82] Fellows would come and go down to market; at the foot of Franklin avenue there at Chicago there used to be a lumber market, and a fellow would come in and buy the cargo; but afterwards the big companies had their own yards.

Q. About 1868 most of the saw-mill business was carried on north of Green Bay?

A. No, there was quite a lot of it——

Q. Down in——

A. There was a lot of lumber cut at Depere, and lots of it hauled in, and lots of it went to the Lake Michigan shore. I don't think they fetched any lumber down Fox River; they may have run some logs down there. But the great lumber companies were all on the west shore of Lake Michigan.

Q. So the lumber business was really about at its height in the Green Bay region in about 1868, would you say?

A. Oh, no, they wasn't getting it out like they was along in the eighties and the seventies.

Q. It was just growing then?

A. It was just commencing to grow.

Q. In fact, would you say in 1866 there wasn't very much lumber being sawed in Green Bay?

A. Not much. There was very little. At Peshtigo there was a big company, and Oconto was a big lumber center, and so was Menominee.

Q. But they also grew up after the sixties?

[fol. 83] A. After that, yes.

Q. So there was very little lumber shipped out of Green Bay in the early sixties; isn't that true?

A. I don't know about that, because I didn't get out on deck until after that.

Mr. Rieser: That is all.

There being no further witnesses called at the above mentioned time and place, the taking of further testimony was adjourned to eight o'clock P. M., this date, to be resumed at St. Ignace, Michigan.

And at eight o'clock P. M., September 2nd, 1924, pursuant to adjournment, the taking of further testimony on behalf of plaintiff was resumed at St. Ignace, Michigan, plaintiff and defendant being respectively represented by counsel heretofore mentioned.

Father WILLIAM FRANCIS GAGNIER, being duly affirmed, on his affirmation testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. Will you give us your full name?
A. My full name is William Francis Gagnier.
Q. And your residence now is where?
A. My present residence is Sault Ste. Marie, Michigan.
Q. How old are you?
A. I am sixty-seven past last May.
Q. Sixty-seven last May. And what is your calling?
[fol. 84] A. Indian missionary at present, priest of the Saint Jesus, S. J. I carry S. J. after my name. And Indian missionary work is my principal work now.
Q. How long have you been a missionary to the Indians in this part of the country?
A. Well, practically twenty-nine years, pretty near twenty-nine years.
Q. To the Chippewas?
A. To the Chippewas and the Ottawas in the upper peninsula. We call them Chippewas generally.
Q. In your work does your work embrace the Chippewa tribe or band at Baraga?
A. Yes, I go to Baraga; I go up there pretty nearly every year; I go there a couple of times a year, about twice a year, once or twice a year anyway.
Q. Do you know whether the Indians of the Village of Lac Vieux Desert are connected with the Baraga Indians?
A. I have been told they were. Some Indian told me that they belonged to that band.

Mr. Rieser: Of course, this testimony is subject to any motions that we may make?
Mr. Sawyer: Yes.

Q. In your work with the Indians of Baraga and that locality have you had occasion to know what they call the country around Lac Vieux Desert?
A. I have never heard it called anything except Gete Kitigaming, G-e-t-e K-i-t-i-g-a-m-i-n-g. The E's are like A's in English.
[fol. 85] Q. What would that be in French?
A. That would be in French, would be Lac Vieux Desert.

Q. That refers to the country, doesn't it?

Mr. Rieser: I object to that as leading and suggestive.
Mr. Sawyer: I will withdraw that question.

Q. How would you speak it?
A. They call it Lake Gete Kitigaming.
Q. If you are referring to a lake how would it be spelled in French?
A. It would be L-a-c V-i-e-u-x.
Q. That would mean what?
A. D-e-s-e-r-t. Lac Vieux desert would be the pronunciation of Gete Kitigaming.
Q. You mean the same as the Indian?
A. Yes. And means an old farm, or an old place, any place where there was something sowed, an old clearing where there had been some sowing, where something had been planted.
Q. Now I want to show you a map, which is plaintiff's proposed Exhibit 6, and call your attention, Father, to this bunch of lakes, one at the head of the Montreal River, one at the head of the Monominee, one here at the head of the Ontonagon, two at the head of the Wisconsin and the Chippewa, and one in between. Now, you see that it is printed across that whole territory "Les Lac Vieux Desert." That is printed, isn't it?
[fol. 86] A. It is printed, but it is bad French. There should be an S after the C.
Q What does the Les denote?
A. That means plural, the lakes of Vieux Desert, the lakes which take their name, as I understand it, from the principal lake, which takes its name from this one lake. The other Lac is the Vieux Desert district. The whole Lac Vieux Desert was Gete Kitigaming lakes
Q That means the plural of lake, more than one?
A. It should be—The trouble is there is no S after the C; there should be an S; but evidently, apparently they wanted to put it in the plural.
Q. L-e-s?
A. They wouldn't have put it Les unless it was the plural, unless they wanted to put—If they wanted to put one lake they would hardly put Les; they would put Le for one, and Les for more than one. This way as it stands it is hard to say what they meant. They might have meant Le Lac Vieux Desert, but it is most likely they meant Les, the plural. I hardly think they would put Les for simply the lake itself. They might, of course, but I don't see why they would put Les. I don't see why they put in that plural, except they wanted to designate all the lakes in the district, which took their name from the principal lake, which is Lake Gete Kitigaming.
Q. I will ask you in that connection, you know where Lac Vieux [fol. 87] Desert is now on the map?
A. Yes.
Q. Do you understond that that was the principal lake in that locality?

A. That is my idea, that is my impression.

Q. And that is the one where the Indian village is?

A. Yes; the Indian village is on that lake shore.

Q. And so your interpretation is that they meant all of these lakes took the same name as the one of the Indian village?

Mr. Rieser: I object to the leading questions.

Mr. Sawyer: State it in your own language, Father.

A. I would say it would be more probable that they meant to say that, because it would be easier for them to leave the S out of Lac than to put the S in Les, I think.

Q. They have got it there as it is.

A. There I say it isn't clear what it is, because they should have the S after the Lac to make it good French. But still it could be interpreted that way. As it stands there should be the S after the C to make it altogether clear; but on the other hand it seems incredible, unless they made a mistake and put the S in Les instead of Le. They have put Les, you see, with a singular noun; they put the plural article and the singular noun here (indicating); but it would [fol. 88] seem by the way that they put the Vieux Desert on the other side, and put all the bunch together, my interpretation, I imagine they wanted to call them all by that one name; that would be my impression of it, as far as it is worth, although it is a little poor French. But by the fact they put this (indicating) on one side and the Vieux Desert on the other and grouped them all together between it looks as if they intended to make it mean that.

Q. What could Les mean other than plural?

A. It couldn't mean anything else but plural. It couldn't mean anything else but plural as it stands.

Q. I also show you another map, which has not yet received an exhibit number, but which is endorsed "Map of the northern part of Ohio, Indiana and Illinois, with Michigan and that part of the Ouisconsin Territory lying east of the Mississippi River, by David H. Burr, Draftsman to the House of Reps. 1836." Now, looking at this map I also call your attention to a group of lakes, one at the head of each of several rivers, but the group of lakes being very close together, on which is printed "Lac Du Vieux Desert." What would that be in English, as nearly as you can state it.

A. Well, that would mean Lake of Vieux Desert.

Q. Speak Vieux Desert in English, will you?

A. Well, Lake of the old farm, or Lake of the Gete Kitigaming, [fol. 89] lake of the old farm; we call it a farm.

Q. Does it mean anything more?

A. No. That means—in this case it applies clearly to one lake, to the principal lake.

Q. What does the Du mean?

A. Of, lake of the old farm; but we hardly ever put it that way. We always use it, just simply Du. But the Du wouldn't make any difference; the Du wouldn't affect it at all, wouldn't affect the mean-

ing a bit. It means simply it applies to the principal lake, the one at the source of the Wisconsin, as I understand it; that is the principal one.

Mr. Sawyer: That is all.

Cross-examination by Mr. Rieser:

Q. Father Gagnier, how many times have you been in that Lac Vieux Desert region?

A. Well, all together—There wasn't anything to be done with them much, they were so mixed up. I have been there about three or four times, three times I think, three or four times, three times anyway.

Q. Then your visits were to this principal Lac Vieux Desert?

A. Yes, that is all. I did not go any further than that.

Q. You are not acquainted as to whether or not there are any other lakes right near by?

A. I did not visit the lakes; I am not acquainted, no.

Q. Do you know personally whether or not there are any other [fol. 90] lakes near by——

A. I don't know personally, no.

Q. —that are called Lac Vieux Desert?

A. No, I never saw them, and never heard of them being called that. I have only heard that once; that is all I ever heard.

Q. Just of that one large lake?

A. That is all I ever heard in the little I have been there. I just went there on missions.

Q. That principal lake has in it two pretty large islands, hasn't it, Father?

A. I believe there is one, it seems to me. I did not notice very definitely; I did not take very much notice.

Q. On that island, is that where the camp or the colony is?

A. Yes. They have got a farm—I believe the Indians told me that they have a garden there.

Q. Is the Indian village on the island, Father?

A. No, the Indian village is not on the island; the Indian village is on the mainland, on the north side.

Q. But the clearing, or the place where they had grown things——

A. That is what they told me; somebody told me that.

Q. —was supposed to be on the island?

A. That is what I heard.

Q. In that lake?

A. That is what I heard; somebody told me that.

Q. And those people who told you that also said that this Lac Vieux Desert is a well known lake for years and years back?

[fol. 91] A. Well, they never said that, no. They didn't mention about that, no. No, they didn't mention that. They didn't speak about that at all, no, didn't say anything about that. Of course, I knew it was. I understood it was.

Q. You understood that from your familiarity with history, did you?

A. Yes, and from the fact that there was a cross planted there. I found an old cross there, and I thought maybe the Indians had moved away from Baraga and maybe put the cross there, or maybe some other missionary might have put it there.

Q. Where was the cross, on the island, Father?

A. No, on the mainland.

Q. At the Indian village?

A. At the Indian village.

Q. Where is this Indian village?

A. It is on the north side of the lake.

Q. Now, when you refer to this Lac Du Vieux Desert, that rather denotes the singular, doesn't it?

A. It does.

Q. And if the plural were intended they would use Des, wouldn't they?

A. Yes, it would be Des.

Q. Lac Des Vieux Desert?

A. Lac Des Vieux Desert, I imagine so; at least, that would be the way of putting it, I imagine. Well, yes. No; pardon me. They would have to put the S after the C; it would have to be Lacs.

Q. Lacs Vieux Desert?

[fol. 92] A. Lacs Vieux Desert. The S would have to be after the C in the Lac, you know.

Q. And then also after the Desert?

A. Well, that depends now. No, pardon me. That is a mistake. They could put the Du, I believe they could put it singular; I believe they might. Probably I would put it singular myself.

Q. Now, in ordinary French, as you understand it, how would they write it if they intended to refer to the plural?

A. Well, I would say—I think good French I would leave the Du and the Des all out. I would say Lac Vieux Desert, in good French, I should imagine. They could put either Du or Des. I would put Du myself.

Q. How about the plural?

A. But the best would be Lac without the—I would simply put it Lac Vieux Desert.

Q. Now, Father, isn't this true: If you intended to describe the particular location of this lake, for instance, lake of the old deserted place, you would refer to it as Lac Du Vieux Desert, wouldn't you?

A. I would not myself do so, and I never heard it spoken of that way.

Q. You mean you haven't heard the lake spoken of that way?

A. I would put it Lac Vieux Desert. I would not bother with the Du at all myself; I wouldn't put it in. I wouldn't use that ex-

[fol. 93] pression at all. I would leave it out myself.

Q. But isn't it a common thing for people in speaking of a place rather than in writing about it, to use that very method of saying the name, or describing the name?

A. Well, I don't really know. Some might and some might not. I imagine some might and some might not. I think it should be ad libitum. Some might and some might not. That is from your understanding of French?

A. Yes.

Q. And that would be especially true if the people using it were not particularly highly educated Frenchmen?

A. Yes, I suppose they would, of course, yes, because they would put it the best way they understand it. The way it impresses me is this: That those that compiled the maps, that wrote the maps, that they put it in their own fashion and wanted to indicate just what I said in the beginning. That is the way it looks to me.

Mr. Sawyer: And wanted to indicate what?

A. Wanted to indicate one principal lake, which was Vieux Desert; and the other lakes were called after that one lake; they give them all the same name.

Mr. Rieser: And you base that entirely from the writing on the map?

A. Yes, from the writing on the map.

Mr. Rieser: I think that is all.

Redirect examination by Mr. Sawyer:

Q. I think it is clear, but I just want to ask one more question. [fol. 94] Father, we are not especially concerned with what is good French here, but we want to know what the language as printed here probably means, and that is what you have just stated, have you?

A. I have tried to get the best I can out of it. You see, it is poor French, to begin with. You can see it is bad right off, because they have the plural Les with a singular noun. And the other one, Lac Vieux Desert is beautiful French.

Q. But finding them using Les what would you say they intended by that, the plural or singular?

A. I should imagine they intended plural; I should imagine they would by putting Les in that. They might—it looks that way; but it isn't absolutely clear, except they have strung it out in that way with the lakes between. But it is a conundrum. I think, as I said before, it is more likely they meant the plural than the singular in that case. It looks to me that was their intention.

Mr. Sawyer: I think that is all.

There being no further witnesses called at the above mentioned time and place, the taking of further testimony was adjourned to September the 4th, 1924, to be resumed at Menominee, Michigan, on that date, at ten o'clock A. M.

[fol. 95] At St. Ignace, Michigan, on September 3rd, 1924, at eight o'clock A. M., the witness, Father Gagnier requested permission to make a correction in his testimony given at the hearing last evening, and the following proceedings were had, the Commissioner and counsel for the respective parties all being present:

The Commissioner: At the request of the witness, Father Gagnier, and by agreement of counsel, the witness being recalled, changes his testimony as follows:

Father Gagnier: I distinctly remember being at the lake twice; that is all I can recall.

Mr. Rieser: And when you say that you refer to Lac Vieux Desert?

Father Gagnier: Lac Vieux Desert is understood, of course. There might have been a third one, but I don't remember it; but those two I remember distinctly. There might have been a third one, maybe.

Mr. Sawyer: Well, that is all.

[fol. 96] Pursuant to adjournment the taking of further testimony on behalf of plaintiff was resumed this 4th day of September, 1924, at ten o'clock A. M., at Menominee, Michigan, plaintiff and defendant being respectively represented by counsel heretofore mentioned.

James F. Lyon being duly sworn, on his oath testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. Please state your name?

A. James F. Lyon.

Q. You reside here in the City of Menominee?

A. Yes, sir.

Q. And how old are you now, Mr. Lyon?

A. The 17th day of this month I will be eight-one.

Q. How early did you first come to Menominee, at what age, or what year?

A. I was a little child, ten years old; I came here in 1853.

Q. How did you come, and from where?

A. Came from the State of Pennsylvania. Do you want the town? The township Burlington, Bradford County, Pennsylvania.

Q. And how did you come?

A. We came by rail from Waverly, New York to Buffalo, and from thence by steam boat here.

Q. Did you come with your parents?

A. Yes.

Q. Do you know how you came into the Bay, through what channel?

[fol. 97] A. I was sleeping soundly when they came in, and I don't know, except from having been told since.

Q. Have you heard your parents talk about that course?
A. Oh, yes.
Q. How often?
A. Oh, I don't know; a great many times.
Q. So from the discussion and understanding in the family do you know what course you took coming in?
A. We came——

Mr. Rieser: Just answer yes or no, Mr. Lyon.
Mr. Sawyer: From the discussion and general understanding in the family do you know what course you took?
Mr. Rieser: You can answer that yes or no. That is my theory.

A. Yes, I think so.

Mr. Sawyer: What course did you take coming into Green Bay and to Menominee from Lake Michigan?
Mr. Rieser: That is objected to for the reason it is hearsay, and incompetent, irrelevant and immaterial.
Mr. Sawyer: Now you may answer.

A. We came through the Door, through Death's Door.
Q. And then what channel?
A. Well, I don't know that I ever heard anyone say positively; but as I understand it they followed the east shore opposite Menominee, and then the Ceptain, being unfamiliar with this west shore, he wouldn't trust it at all, said it was all sand bars; and he came up [fol. 98] until he was opposite Menominee, and came straight across the Bay, and after landing, put us on board a vessel on anchorage here.
Q. Put you on to another vessel while you were at anchor?
A. Opposite the port here; and then went straight back to the east shore before resuming his course through Green Bay.
Q. You have lived on Green Bay practically ever since, haven't you, except during the time you were in the war?
A. Well, no. I was gone some fourteen years to Ironwood; but the rest of the time I have lived on or near Green Bay.
Q. When were you at Ironwood?
A. I went to Ironwood in 1890.
Q. Then from the time you came here up to 1890 you were on or near Green Bay, except during the time you were in the civil war?
A. Yes.
Q. How long were you in the civil war?
A. A little less than two years, about twenty-two months, I think.
Q. Did you notice during that period the general course taken by boats up and down Green Bay from north to south, and the reverse?
A. Yes; we frequently saw them every day, vessels.
Q. What would you say as to the channel that was taken by boats in those early days from the head of Green Bay, villages at Green Bay out into Lake Michigan?

[fol. 99] Mr. Rieser: Just before that question is answered I would like the opportunity of questioning this witness as to the source of his information and his observation.

Mr. Sawyer: Well——

Mr Rieser: What was your work after you came to Menominee, Mr. Lyon?

A. Most of the time until I went into the civil war I run pretty near wild; I didn't do anything except sailing; I did some sailing.

Q. You did some sailing; did you sail very much?

A. A good deal; I was on the water a good deal.

Q. What kind of boats were you on?

A. Small boats.

Q. What were they, fishing boats?

A. No.

Q. Or lumber boats?

A. Trading boats, and boats for transporting from one—There was no roads here then. Our usual travel was by boat in the summer and by ice in the winter. There was no roads here in those early days.

Q. Were those boats engaged in local commerce along the Bay, or what were they engaged in?

A. For the purpose of moving about mostly. That was my idea. We did do some little traffic. Well, for instance, carrying grain from ports along the east shore to Little Sturgeon to be ground, and such things as that; but, of course, they were small, all of them. If we had a hundred bushels of grain on the boat that was pretty near a load.

[fol. 100] Q. So that your experience was entirely within Green Bay; is that right?

A. Yes.

Q. And was really for the purpose of trading among or between the ports within Green Bay?

A. Yes.

Q. And about when did you start in that kind of work?

A. I commenced running about on the Bay, never employed, never for pay, except when I worked in the mills; but that was just chasing about helping the other fellows, and so on; it wasn't regular employment.

Q. Was that before you went to the civil war?

A. Oh, yes, from the time I was thirteen or fourteen years old until I did go.

Q. And didn't do it after that, you didn't sail?

A. Not at all, no, except one or two trips down here to Cedar River.

Q. About how many trips a year would you make?

A. Oh, my! I couldn't say; I don't know.

Q. Well, would you make very many?

A. Yes, a good many. Used to go clear down into Big Bay Dunoquet. I had a sister living at Sturgeon River, and I used to go back and forth there quite often.

Q. That was an arm of Lake Michigan?
A. Yes, that is an arm of Lake Michigan, at the north part of the lake.

Mr. Rieser: The testimony of this witness is objected to for the reason it is incompetent, irrelevant and immaterial, no sufficient foundation laid, and the witness not qualified to testify.

[fol. 101] Mr. Sawyer: Now, Mr. Lyon, you say there were no railroads in those days, so when you moved about it was almost entirely by boat through the open season?
A. Yes.
Q. And from the shore in Menominee can you, in ordinary weather, see the opposite shore?
A. From this side?
Q. Yes.
A. Yes, ordinarily.
Q. So that you could see vessels, sailing vessels and others that moved up and down the Bay?
A. Yes.
Q. Now, will you tell me what channel, as near as you can remember, did the boats take that went to and from the villages at the head of Green Bay out into Lake Michigan?

Mr. Rieser: I object to that for the reason the witness isn't qualified, no sufficient foundation laid, and the testimony is incompetent, irrelevant and immaterial.
Mr. Sawyer: Now you may answer.

A. Why, they were in sight until they turned to go out of the Door. The larger vessels, I think, all went this side of the island.
Q. How about the smaller ones?
A. The smaller ones, I think a good many of them went the inside channel. There was no room for tacking inside, and——
Q. By the "inside channel" you mean Strawberry passage?
[fol. 102] Q. As you went about the islands with the boats that
A. Yes, between Strawberry Islands and Door County.
were trading after you went to the civil war what channel did you take in trading on the other side of the bay?

Mr. Rieser: That is objected to for the reason it is incompetent, irrelevant and immaterial.
Mr. Sawyer: You may answer.

A. Well, according to our port of destination; you know, sometimes we followed the east shore; other times, if we were bound further down we went this side of the island.
Q. You sailed through the Strawberry channel at different times, did you?
A. I have at different times, yes, gone clear down to the Door.
Q. With sail boats?
A. With sail boats.

Q. Were almost all of the boats you went on in those early days sail boats?

A. Sail boats, no steamers. There was very few steamers on the lake then.

Q. And if occasion required you went through the further channel?

A. Yes.

Q. Strawberry Channel?

A. Yes.

Mr. Sawyer: I think that is all.

The Witness: The larger number of sailing vessels coming up into Green Bay came to Menominee then.

Q. That was after the lumber business started?

A. Yes. More vessels came there than to all the other ports combined.

[fol. 103] Q. After the lumber business started?

A. Yes.

Mr. Sawyer: That is all.

Cross-examination by Mr. Rieser:

Q. You say as occasion required you went through the Strawberry channel; I assume that was for the purpose of trading with some little towns along the shore?

A. Yes, along in Door County.

Q. Outside of that you would generally take the course outside of Chambers Island?

A. Oftener this side than the other.

Q. Oftener on the western side of Chambers Island than Strawberry channel?

A. Yes.

Q. You spoke about tacking; tacking is——

A. Tacking is when a vessel is sailing——

Q. Pardon me, until I get the question in. Tacking is kind of sailing into the wind, isn't it?

A. Yes.

Q. And for that reason the vessel heads in a kind of a tangent from the course of the wind; isn't that right, on an angle to the course of the wind?

A. Yes.

Q. And that could not be done you think in Strawberry channel?

A. There wasn't room enough for a large vessel to make a long enough leg; they would prefer to go further instead of doing that.

Q. What size vessel couldn't do that, would you say?

[fol. 104] A. Oh, I don't know. Any of the larger vessels avoided that channel.

Q. Well, about what tonnage, from what tonnage on up?

A. I don't know the tonnage exactly; but a vessel that would carry one hundred and fifty to one hundred and seventy-five thou-

sand was large enough so they would rarely go the other side of the island.

Q. When you say "thousand" you mean pounds?

A. I mean lumber.

Q. You mean thousand feet of lumber?

A. Yes. That was what they reckoned by. A vessel that carried three hundred thousand feet of lumber was a large vessel in those days.

Q. And one above one hundred and seventy-five thousand wouldn't go through the Strawberry channel?

A. Rarely, very rarely, unless they had wind very fair, right behind them, you might say.

Q. And then only in the day time?

A. Well, that I couldn't say. I didn't sail on the larger vessels, you know.

Q. So you don't know what the practice was at night?

A. No. I should presume, though, that they would avoid it in the night, any of them.

Q. Any vessel?

A. Yes.

Q. And the vessels that were heading out of Green Bay in your time, from the time you came to Green Bay until you went to the [fol. 105] civil war, you would say that over ninety per cent of them would carry lumber, wouldn't you?

A. Yes. Menominee was at one time about the largest lumber port in the world, I think.

Q. You say you came from Buffalo to Green Bay?

A. Yes, not to Green Bay; to Menominee.

Q. To Menominee. Do you recall where you went from Mackinac Island?

A. No, I don't. I know we stopped there at the island.

Q. Did you go to some of the southern Lake Michigan ports?

A. No. No; the boat was making a regular run from Buffalo to Green Bay weekly.

Q. Weekly?

A. It took us five days to come up from Buffalo here. You can judge what the boats were in those days.

Q. And that was a regular passenger boat?

A. Regular passenger boat, side-wheel boat.

Q. Was that one of the so-called Buffalo boats?

A. That was one of the so-called Buffalo boats, came from Buffalo to Green Bay on a regular run all through the season.

Q. And stopped along the eastern shores of Door County as it came down, did it?

A. It didn't stop at all in Door County anywhere.

Q. Didn't stop at all in Door County?

A. No. She run to Green Bay. They didn't consider this anything but a wilderness up here in those days.

Q. Even when you came here?

A. Yes.

[fol. 106] Q. When you referred to the lumber business, that was after the civil war; is that right?

A. No. It commenced in the early sixties.

Q. In the early sixties?

A. Yes.

Q. There wasn't hardly any shipping of lumber out of the Menominee region——

A. When I came here there was but one mill, a water mill up here—Oh, I don't know; it is a couple of miles, isn't it, Mr. Sawyer?

Mr. Sawyer: Yes; you refer to the old water-mill.

A. Yes, where they had the first upper dividing boom.

Mr. Rieser: And that was a very small mill?

A. No. That was considered a large one. There was seven old-fashioned saws in it. It extended clear across from the Michigan shore to the island, the mill did. Seven saws, one after the other, each with its individual wheel. It was a big mill. I don't know what the cut was.

Q. Do you know where the product of that mill went?

A. It went to Chicago.

Q. That would be in about 1853?

A. Yes, in '53, '54 and '55.

Mr. Sawyer: Was that the Doctor Hall mill?

A. Doctor Hall at one time had interest in it. The older mill was on the Wisconsin side, but it wasn't running; it was in a ruinous state. When I came here it was a man by the name of Ellsworth that was running that mill.

[fol. 107] Mr. Rieser: And what you said about the amount of traffic in lumber in your earlier testimony applied to the time when you first came to Menominee—is that right—about over ninety per cent of the traffic being lumber traffic?

A. Yes.

Q. Even when you came here?

A. Yes, even when we came here.

Q. What can you say as to the number of sailing vessels in Green Bay as compared to the number of steam vessels appearing in Green Bay when you came here?

A. Ninety-five per cent were sailing vessels.

Q. Ninety-five per cent were sailing vessels?

A. All of them. I don't know but what ninety-nine per cent. There was only an occasional steamer.

Q. Very occasional?

A. Yes.

Mr. Rieser: That is all.

Redirect examination by Mr. Sawyer:

Q. When you first came here how many masts would the larger schooners carry?

A. Three.

Q. At first?

A. At first. There was three-masters came in here, there was barks and three-masted schooners, both.

Q. And those small boats that you ran around the Bay on how much draft would they usually carry?

A. Oh, the largest of them perhaps three feet.

Q. How much?

A. Three feet.

Q. It took a pretty large vessels, didn't it, to carry a draft of [fol. 108] eight or nine feet?

A. Oh, yes, a good size vessel.

Q. There weren't many of those in those first days, were there?

A. Well, coming for lumber, yes.

Q. I mean in the first days, when you first came here?

A. Those that came here for lumber were vessels that would draw from six to nine feet.

Q. And that was when there was but the one mill. How often would a vessel come for lumber in those days?

A. It possibly would average one a week; I don't think much more than that.

Q. And how much lumber could one of those vessels that would draw nine feet of water carry?

A. The bark Chera Bosco, one of the largest, would carry perhaps two hundred and fifty thousand feet.

Q. Do you remember when she operated?

A. She was the one we landed on when we came here.

Q. That was a sailer, that was a sailer then?

A. A sailing vessel or bark. A bark rig is a square rig on the fore and mainmast and fore-and-aft rigged on the mizzenmast, on the aftmast. The larger proportion of the vessels were squared-rigged in those days.

Q. Now, how long was it before the lumber business started on a larger scale after you came here?

A. Well, as near as I can figure it out myself, a New York lumber company built the first steam mill here in about '55 or '56.

[fol. 109] Q. And that was the beginning of the larger traffic in lumber on the lake, wasn't it?

A. Yes. Then afterward the firm of Campbell & Brown built a mill up at what was afterwards known as the N. Ludington mill, not on the island, but on the Wisconsin side of the river. And then Abner & Kirby built the old Kirby mill.

Q. On the Michigan side?

A. On the Michigan side.

Q. Which was the mill that became the Kirby-Carpenter Company later?

A. Yes.

Q. That was about 1856, wasn't it?

A. It must have been about that; I could not say positively.

Mr. Sawyer: I think that is all.

Recross-examination by Mr. Rieser:

Q. Mr. Lyon, your estimate, however, of about from ninety-five per cent and up of sailing vessels coming into Green Bay holds true in 1853 as well as later?
A. Oh, yes. For some time later there was very few steamers.

Mr. Rieser: That is all.

Mr. Sawyer: Just one more question: Before the lumber traffic increased where was the most of the traffic, to the head of the Bay, or on this shore?
A. On this shore.
Q. On which?
A. On this shore.
Q. I mean to Green Bay, down there, in 1853, say, or from that up to 1856 was there more traffic going down to Green Bay, more sailing traffic?
[fol. 110] A. Yes. This shore was settled up much more than the other shore. There was very little in Door County at that time.
Q. There wasn't much up there, was there?
A. Not a great deal; but there was the ports of Peshtigo, and Pensaukee, and Oconto, and the Suamicos; they were all on this side of the Bay.
Q. I am speaking of the villages at the head of the Bay, Green Bay and Astor?
A. We used to say "up." That was the head of the Bay to us, where Green Bay City is.
Q. Of the boats coming into the waters of Green Bay didn't a large number of them go to Green Bay proper, at the head of the Bay?
A. No; I think more came to the lumber ports than went to Green Bay proper.
Q. That was after the lumber industry started?
A. Yes.
Q. You don't know how it was before that?
A. No.
Q. That was before you came here?
A. Green Bay was a very early settlement, of course.

Mr. Sawyer: That is all.
Mr. Rieser: That is all.

THOMAS R. HASLEY, being duly sworn, on his oath testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. State your name, please?
A. Thomas R. Hasley.
[fol. 111] Q. You are City Engineer of the City of Menominee at present, are you?

A. Yes.

Q. You are a civil engineer?

A. Yes, sir.

Q. And what was your education in that line?

A. Well, that is so long ago. I was educated under a private tuition.

Q. How long have you been practicing as a civil engineer?

A. Oh, for thirty-five years.

Q. Will you tell the Court some of the work that you have done? Just mention a few of the items of work that you have done.

A. Well, I constructed the sewerage system of the City of Menominee; I was engineer of that concrete ore dock at Marquette.

Q. What about the power plant on the Menominee River?

A. Yes, I constructed a hydro-electric power plant on the Menominee River near Ingalls.

Q. How extensive a plant is that?

A. Oh, somewhere around a million dollars. I built the Wisconsin & Michigan Railroad, and I constructed part of the Des Moines, Iowa Falls & Northern Railroad, now a part of the Rock Island system, down in Iowa.

Q. Well, I guess that will be sufficient. I show you a government chart number two of the west shore of Lake Michigan and the south end of Green Bay, bearing date 1918, the same being plaintiff's proposed exhibit 106; have you examined this chart?

[fol. 112] A. I have.

Q. Can you take a starting point at about the center of the main channel of the Menominee river at its mouth, and outline a course, giving us the course and the distance from there to the east channel of Green Bay commonly known as the Strawberry channel, and then in the same manner follow that channel to and through Death's Door into Lake Michigan?

A. Yes.

Q. Will you do so? First giving us definitely the starting point at the mouth of the Menominee River; and I add the following: a channel which can be used by the ordinary vessels of today, and early days.

Mr. Rieser: I object to that for the reason the witness is not shown to be qualified, and no sufficient foundation laid, and incompetent, irrelevant and immaterial.

Mr. Sawyer: I am asking that this be founded on the government chart, using the measurements and the depths as indicated on the chart. In that way can you——

A. That was the basis on which I worked.

Q. Will you give us that course, first definitely stating the starting point?

A. For this purpose I have assumed the common junction of two lines, apparently sailing lines, as indicated on this chart outside of the mouth of the Menominee River; I have taken that as a [fol. 113] starting point, where there is, it is shown, three and

three-quarters fathoms of water, which is the government sailing objective, one-half mile off the river.

Q. Do you know what that is called?

A. The government sailing objective.

Q. Now, will you trace the course, giving us the course and the distances?

A. Beginning at the point near the mouth of the Menominee River shown on coast chart number two, west shore of Lake Michigan, including the south end of Green Bay, being the point of sailing objective shown on said chart, thence north eighty degrees and thirty minutes, east sixteen miles to the line of sailing direction shown on said chart about three-quarter miles south of Strawberry Island, thence north fourteen degrees, east two and three-quarter miles through Strawberry channel, thence north thirty-three degrees and fifty-three minutes, east eleven and three-quarter miles, thence east five and three-quarter miles to the entrance of Porte Des Mort passage, thence south forty-seven degrees and forty-nine minutes, east two and one-half miles through the said Porte Des Mort passage to a point one mile west of Pilot Island, thence south twenty-nine degrees and thirty-two minutes, east four and one-quarter miles to a common point of junction of sailing directions one and five-eighths miles east of red gas and bell number twenty [fol. 114] marked on the aforesaid chart.

Q. In giving this course state whether or not you have followed the course as marked on the government chart after getting across the Bay from Menominee?

A. After getting across the Bay from Menominee south of Strawberry Island I joined the sailing lines indicated on the chart.

Q. Did you then follow it?

A Then followed the directions as shown.

Q Now let me ask you if you can tell from that chart the depth of water from the point where you started across to the place where you joined the government sailing directions on the east shore, generally?

A. Well, it begins with three and three-quarters fathoms of water and increases to twelve fathoms, fifteen, seventeen, fourteen, fifteen, and about six and one-half fathoms where I joined the east channel.

Q. From the government charts have you measured the width of Strawberry channel where it passes by Strawberry Islands?

A. I did.

Q. Take the showing of the chart of a depth of water nine feet and more how wide would the channel be in its narrowest point?

A. According to that chart that I examined it was substantially seven-eighths of a mile.

[fol. 115] Q. That is one of the government charts?

A. One of the government charts.

Q. And how deep is that at its deepest point?

A. I would have to refresh my memory on that.

Q. I wish you would.

A. Five and a quarter fathoms.

Q. Do you find any marking of the center of that channel by any bouy as shown on the chart?
A. Yes.

Mr. Reiser: I object to that for the reason the chart itself is the best evidence, and it assumes something that is not in evidence, to-wit, that the center of the channel is marked by a bouy.

Mr. Sawyer: I will ask the question in this way: From the chart which you have referred to as chart number two is there any marking along the course of the channel where it passes Strawberry Islands to indicate any sign to people using that channel?
A. There is.
Q. And can you tell what it is?

Mr. Rieser: I object to that for the reason the chart is the best evidence.
Mr. Sawyer: It doesn't call for a ruling. Of course, we are explaining the chart for the benefit of the Court.

Q. Can you tell what it is?
A. I cannot, what that is; it is evidently——

[fol. 116] Mr. Rieser: Just a moment. I object to that as a conclusion of the witness, unless he knows.

Mr. Sawyer: Can you tell the depth of the water at that point in the channel?
A. Not from this chart. This isn't very clear.
Q. Now, I will ask you further, Mr. Hasley, if from the markings on this chart number two, which seem to give a sailing course from a definite point *b*ear the head of the Bay, can you tell what that point is, definite point near the head of the waters of Green Bay?
A. Yes.
Q. Starting at that point and taking the course indicated on the chart which goes west of Chambers Island, and thence northeasterly, changing its course but following the line given on the chart through Death's Door to the common point in Lake Michigan spoke of before, and then taking the same starting point and following the line on the chart that passes through Strawberry channel, and is the same line which you used in the portion of your first described course, to and through Death's Door, or Porte Des Mort, as it was called, to the common point in Lake Michigan, have you measured those?
A. Yes.
Q. Which is the longest, and how much longer is it than the other?

Mr. Rieser: I object to that for the reason it assumes the chart [fol. 117] shows the course and distance, and that such courses are outlined on the chart, a matter which is not in evidence; and for the further reason the witness has not been shown competent.
Mr. Sawyer: I will add to that that I am calling the witness' attention to the courses as laid down and the distances as given on the chart referred to. I am calling the witness' attention to this appear-

ing on the chart before him, and ask you if these are the lines indicating the sailing directions?

Mr. Rieser: I object to that for the reason the witness is qualified, and that the chart itself is the best evidence, and that if it does appear from the chart, that the witness has not been qualified, and no sufficient foundation laid, and incompetent, irrelevant and immaterial.

The Commissioner: I take it, gentlemen, you do not desire a ruling on this?

Mr. Sawyer: No; there is no occasion for a ruling. I will say this: I have shown the witness two lines on the chart now before the witness, one showing a course west of Chambers Island, the other showing a course through Strawberry passage, each starting at the head of the waters of Green Bay, and with their various angles, each passing out through Death's Door to the common point in Lake Michigan mentioned before. Now, have you followed those lines and meas- [fol. 118] ured them so that you can tell which is the longest?

A. I have.

Q. Which is the longest?

Mr. Rieser: I object to that for the reason there is no sufficient foundation laid, and incompetent, irrelevant and immaterial, and the witness not shown qualified.

Mr. Sawyer: You may answer; which is the longest?

A. I will have to refer to another chart that I have here.

Mr. Sawyer: The chart referred to by the witness is a duplicate of the one referred to as plaintiff's proposed Exhibit 115.

The Witness: The one going to the west of Chambers Island is the longer by four miles.

Mr. Sawyer: That is all.

Mr. Rieser: No cross examination.

Captain JAMES K. ALLGER, being duly sworn, on his oath, testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. Please state your name?

A. James K. Allger.

Q. Mr. Allger, you live here in the City of Menominee?

A. Yes, sir.

Q. How old are you?

A. I am seventy-nine years old. If I live until the 15th of October I will be eighty.

Q. And how early in your life did you come to this Green Bay part [fol. 119] of the country?

A. Well, we came to Washington Island when I was a year and a half old.

Q. You came with your parents there?

A. Yes. My folks moved there from Chicago.

Q. How long did you live there?

A. We lived there seven years.

Q. Then you would have been——

A. I was nine years old the fall that we moved away.

Q. Do you remember something of your life while you were on the island?

A. Oh, yes, quite a little of it.

Q. Since that time where have you lived?

A. My home has been on the west shore of Green Bay ever since.

Q. Sometimes at one place and sometimes at another?

A. Yes. I have lived at Escanaba, Big Cedar River, and on the shore between the two.

Q. What was your father's occupation when you were living on Washington Island?

A. He first went there to make shaved shingles. That was all the shingles we had them times.

Q. And then what?

A. He was there and made shaved shingles for two years, and then in the fall he bought out a fishing rig from a couple of men that were fishing there, and then he fished from that time until we left the island.

Q. Did you ever go with him fishing?

A. No; I wasn't old enough. My two brothers next older than I am—You know one of them. No, you don't know either of them.

Q. Henry?

A. No; he is younger than I am. It was Harvey and Alpheus. [fol. 120] Al was here in Menominee for two or three years, lumbered from here.

Q. Did they used to go with him fishing?

A. They was fishing with him, and my oldest brother, Bill, he fished with him, in the first place. He fished for two or three years with him, until he was twenty-one, and then he went fishing for some one else, for Benson, on the west side of the island.

Q. Since you have lived on the west shore have you had much to do with, or been upon the waters of Green Bay very much?

A. I was on them about twenty years.

Q. And what were you doing principally while you were on them?

A. Sailing, fishing, and trading. We made staves for the fishermen on Washington Island, took them across there in our sail boat; and then afterwards I was on a schooner that traded down to St. Joe for apples and peaches.

Q. St. Joe is on the other side of Lake Michigan?

A. Yes.

Q. During that experience have you had occasion to move around in the waters near Washington Island?

A. Yes, a good deal of occasion. I have sailed through the Door, and sailed around the islands, and from Washington Island out

through the Door. When we were trading there we used to go around every little place there was. We had goods aboard, just the same as a store, all kinds of goods you could think of that the fishermen would use.

[fol. 121] Q. You say you used to go to St. Joe?

A. Yes.

Q. For fruit?

A. Yes.

Q. And where did you take that fruit, all along, as you say——

A. All along on this shore, all along the shores up this way. Of course, there was no fruit raised up here then.

Q. And what course would you take coming from St. Joe into Green Bay?

Mr. Rieser: I object to that for the reason that is incompetent, irrelevant, and immaterial, and no sufficient foundation laid, and the witness not qualified, and that the testimony relates to a date other than that at issue in this law suit.

Mr. Sawyer: Now you may answer.

A. That would be pretty hard to say, because it is according to the wind. We were on sailing vessels, and if the wind held from the eastward we would sail down the east shore until we got pretty well up towards the islands, and then cross; but if the wind was from the westward and we could hold away from the shore there we would hold away just as far as we could.

Q. What point would you aim for?

A. For the Door.

Q. The point called Death's Door?

A. Yes, for Death's Door. And then——

Mr. Rieser: Just pardon me. You have answered the question. In order that I might preserve my objection I wish you would just answer the questions, and then wait until Mr. Sawyer's questions come.

[fol. 122] Mr. Sawyer: What passage did you usually take from Lake Michigan into Green Bay or from Green Bay out into Lake Michigan?

Mr. Rieser: Objected to for the reason that the witness is incompetent to testify, no sufficient foundation laid, and the question and testimony relate to a time other than that when the boundary was established, and for the further reason that the testimony and the question is incompetent, irrelevant and immaterial.

Mr. Sawyer: Now you may answer.

A. The Door.

Q. In your moving about the Bay were you able to observe as to which channel was used the most by vessels in your early life?

Mr. Rieser: The same objection.

A. My earliest first recollection, I think up there the channel along the cost shore was used the most.

Mr. Sawyer:

Q. You mean in the Bay?
A. In the Bay.
Q. Is that what they call Strawberry channel?

Mr. Rieser: Same objection.

A. Yes, that is what we call Strawberry channel.

Mr. Sawyer: From your observation which channel was used the most passing between the Bay and the lake, Rock Island channel, or Death's Door?

Mr. Rieser: Same objection.

A. Death's Door. The Door was used altogether.

[fol. 123] Mr. Sawyer: Do you know of any anchorage connected with the Door?

A. I couldn't say that I do. I have seen vessels anchored there, for what reason I don't know; but they was anchored always when the wind was from the south. And vessels going out with lumber, they would anchor off on the east side of the Door in behind Pilot Island. Right in there there was always a good anchorage there.

Q. In your sailing in those early days I understand you to say you took the east passage often?

Mr. Rieser: Same objection.

A. We did.

Mr. Sawyer: Did you say that you used sail boats there?

Mr. Rieser: Same objection.

A. Yes, sir.

Mr. Sawyer: What can you say as to whether or not sail boats could go through Strawberry channel, clear through from the north to the south, and reverse?

Mr. Rieser: I object to that for the same reasons before given, and for the further reason the witness is not qualified to testify.

A. We never had no trouble. I have went through there I suppose—Well, fifty times anyway, at the least. We never had any trouble going through. We beat in head winds.

Mr. Sawyer: Now, do you remember of the time that the govern-
[fol. 124] ment made a geodetic survey of the Bay?

A. Yes, sir. Us boys helped them build some of the monuments on the points.

Q. Now, before that time do you know what the general understanding was as to the passages north of Death's Door?

Mr. Rieser: I object to that for the same reason; it is incompetent, irrelevant and immaterial; it is based upon hearsay, and a conclusion of the witness.

Mr. Sawyer: You may answer.

A. As far as that is concerned, I didn't know much about it, for they wasn't but very seldom used, for all of our traffic was mostly with Chicago, and everything that went to or came from Chicago passed through the Door.

Q. Do you recall any incident of the discovery of a shoal in one of the northern passages?

A. No, it wasn't in a passage. I don't remember that. But there's a shoal I spoke to you once about being discovered, called the eleven foot shoal. That is off Peninsula Point; a fisherman by the name of Driscoll discovered that.

Q. Off Peninsula Point; Peninsula Point is at the north end of the traverse, isn't it?

A. At the north end of Green Bay.

Q. At the north end of Green Bay. A fisherman by the name of what?

A. Driscoll.

Q. What were the circumstances in regard to that?

[fol. 125] Mr. Rieser: Just a moment. I would like to ask the witness one question. Were you present when that discovery was made?

A. No, I was not present.

Mr. Rieser: Then I object to it for the reason it is based on hearsay.

Mr. Sawyer: Now you may state.

A. You could verify that very easy if you wanted to, for he was an old sea captain, and he gave the longitude and latitude, and everything, and sent it on in to the government, at Washington.

Q. Is he dead now?

A. Oh, yes; he has been dead for years.

Q. What were the circumstances of that?

Mr. Rieser: Same objection, and incompetent, irrelevant and immaterial.

A. He was setting gill nets in the Bay, and he supposed he would have about seven or eight fathoms of water, and he throwed—Of course, there is a line and a *bouy* at the end of all these nets, and he throwed over his anchor for his *bouy* and he only got eleven feet of water; so he knew there was a shoal there, and it was dangerous for heavy loaded vessels; so he took the latitude and longitude and sent it right in; and it has since been called the Eleven Foot shoal. And I don't know but there is a vessel on there now, a light ship.

Mr. Sawyer: Did you know the situation at the head of the Bay [fol. 126] near the entrance to Fox River, from the village of Green Bay?

A. No, I don't know much about that, only from hearsay from my brothers up there; and in after-years, of course after-years I used to sail up there. But in the early days I didn't.

Q. Do you know anything about the situation there as bearing upon the kind of vessels that could go to Green Bay, as to whether it would take any light, or any heavy draft vessels?

Mr. Rieser: Objected to for the reason that is incompetent, irrelevant and immaterial, based on hearsay.

A. As near as I can remember they had to have light draft vessels to run from Green Bay.

Mr. Sawyer: In the early part of your recollection?

A. In the early part of my sailing. I know I have been aground on the mud up there several times.

Q. It was so until after the government improvements were made, wasn't it?

A. It was so until after the government improvements were made.

Q. Can you state generally as to whether or not the boats that moved up and down the shore in the early part of your experience used the Strawberry channel?

Mr. Rieser: Just answer that yes or no.

Mr. Sawyer: Can you state whether they did or not?

[fol. 127] A. The boats that came through and went up the Bay——

Q. Wait a minute. He wants you to say first whether you know.

A. Yes, I do. The boats that came through——

Mr. Rieser: Just a moment.

Mr. Sawyer: Did or did they not take that easterly channel?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, and not within the issues of this case, because the witness has already testified that his testimony relates to a period other than that when the boundary was established, and at a later period.

A. Well, boats coming to Menominee, of course, they would come across this side.

Mr. Rieser: You mean by "this side" the west side of Chambers Island?

A. Yes, the west side of the channel, they would take this channel; but going further up the Bay they would take the east shore channel, the Strawberry channel.

Mr. Sawyer: Going to any ports south of Menominee they would take the Strawberry?

A. Yes, south of Menominee.

Q. Have you ever observed the course taken by lumber vessels that went out from Pensaukee and Oconto?

A. I have. They went——

Mr. Rieser: Just answer the question, please, Mr. Allger. That [fol. 128] question has been answered.

Mr. Sawyer: What course did those lumber vessels usually take?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, and not within the issues in this case, and relates to a time other than that when the boundary was established.

A. Well, they usually stood out into the bay until they could get by so they could clear the islands out here, and then take the Strawberry channel down on that shore. That is my observation.

Mr. Sawyer: State whether or not there is a reef off Peshtigo that they used to go beyond?

A. There is.

Q. And could they come between that reef and the west shore?

A. No, sir; they couldn't go through there in a fish boat.

Q. I believe you have told me that you had a brother at the time you were living on Washington Island who was a pilot?

A. Yes, sir, I did.

Q. Where was he accustomed to work as a pilot?

A. From Washington Island to Green Bay.

Q. Do you remember some of the incidents of his work?

A. Yes, I remember some of them.

Q. What boats would he work on, usually?

A. He was on the little Columbia; that is the only one I know of, that I remember.

[fol. 129] Q. What kind of boat was that?

A. That was a little side-wheeler.

Q. Steamer?

A. Steamer. She ran from Chicago to Green Bay.

Q. Do you know what course that boat would take?

A. No, I couldn't tell you the course at all.

Q. I mean through the Bay, which channel did she take?

Mr. Rieser: I object to that for the reason that — is incompetent, irrelevant and immaterial, and hearsay, and doesn't relate to a time at which the boundary was established.

A. She took the channel up the—the east shore channel clear to Green Bay, never came across to the west shore at all. That I know.

Mr. Sawyer: Do you remember any incidents in connection with his acting as pilot that make you remember distinctly?

Mr. Rieser: Same objection.

A. Yes; I remember two perfectly well. One was over here south of Ellison's Bay; I don't know exactly where the shoal is; but he had charge of the boat at night, and the Captain was in his room, and the mate refused to run on the course he gave him, and he run the boat ashore, or aground onto a reef——

Mr. Sawyer: The mate did?

A. Yes. —and of course the Caption was called, and he dis- [fol. 130] charged the mate right there, told him that he could go to his room and stay there until they get to port, for disobeying orders.

Q. For disobeying the orders of the pilot?

A. Sure, disobeying the pilot's orders. The pilot is supposed to have charge of a boat when he takes charge

Q. You said you remember two incidents; what was the other especial incident?

Mr. Rieser: Same objection.

A. The other was an incident of my brother next younger than I am; he was sick with brain fever, and that fall—this was in the winter, early in the winter, and the next fall, towards fall a doctor came in on this boat from Chicago, and father had him come to the house to see if he knew anything about what ailed my brother. And he said, yes, that one side of his head wasn't growing, was affected, and he asked him if he could do anything for him, and he told him he could. He says, "I'll send the medicine back by your son who is going up to Green Bay as pilot on the boat"; and he did so.

Mr. Sawyer: Do you know what channel they took then?

Mr. Rieser: Objected to—You were not on that boat at that time, were you, Mr. Allger?

A. No, I wasn't on the boat.

Mr. Rieser: That is objected to for the reason it is incompetent, irrelevant and immaterial, and based on hearsay, and doesn't relate [fol. 131] to a time within the issues of this case.

Mr. Sawyer: Now you may answer the question. You said you knew the channel; which channel did they take?

A. They took the Strawberry channel to Green Bay. That I am sure of, because I heard my brother describe it.

Q. State whether or not you didn't often hear these matters discussed in the family?

Mr. Rieser: Same objection.

A. Why, sure.

Mr. Sawyer: As to where the vessels went?

A. Where the vessels went. And there was a lot, there was from three to—I have seen five and six of these traders in at Washington harbor, and they went from one little settlement to the other, and I have sat there for hours and listened to these men telling where they went, and what courses they steered.

Q. When a vessel came in from Chicago to Washington harbor would it come through the Door and up to the harbor?

Mr. Rieser: Same objection.

A. Yes, sir.
Mr. Sawyer: Or which course would they take?

Mr. Rieser: Same objection.

Mr. Sawyer: Now you may answer.
A. They came through the Door always. Any vessel that came into the Bay from Chicago, or to the south, always came through the Door.
[fol. 132] Q. In the earliest part of your experience on, and knowledge of the Bay which channel would you say was used the most, as to Chambers Island, the Strawberry channel or the channel west of the island?

Mr. Rieser: Same objection.

A. In the early days the Strawberry channel was used the most.

Mr. Sawyer: That is all.

Cross-examination by Mr. Rieser:

Q. Mr. Allger, your testimony now relates to your recollection, does it, from the late fifties on, you would say, wouldn't you?
A. Yes.

Mr. Rieser: That is all; no cross examination.
Mr. Sawyer: That is your recollection from your own experience, and from what you heard talked generally about the matter?
A. Sure, yes.

Mr. Sawyer: That is all.

Louis Dobeas, being duly sworn, on his oath testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. State your name, please?
A. Louis Dobeas.
Q. Mr. Dobeas, you live in this city?
A. Yes, sir.
[fol. 133] Q. How old are you?
A. Seventy-seven.
Q. Where did you live at the time of your earliest recollections of life?
A. Fish Creek.
Q. That is on the east shore of Green Bay?
A. Yes, sir.
Q. And until what age did you live there, as nearly as you can remember?
A. Oh, about sixteen, as near as I can remember.
Q. As a boy did you sail on the Bay at any time?

A. I was helper on a sail boat out of Fish Creek.

Q. Can you tell from your memory whether or not the sail boats used in those days to go up through Strawberry channel?

Mr. Rieser: I object to that as incompetent, irrelevant and immaterial, and does not relate to a time within the issues of this suit.

A. Yes, sir, I can remember it.

Mr. Sawyer: Did they or did they not pass back and forth through the Strawberry passage?

Mr. Rieser: Same objection.

A. Yes, sir.

Mr. Sawyer: Have you ever been through there yourself?

Mr. Rieser: Same objection.

A. Yes, sir.

Mr. Sawyer: On sail boats?

[fol. 134] Mr. Rieser: Same objection.

A. Yes, sir.

Mr. Sawyer: Can you tell whether or not there was any trouble with the ordinary sail boats in those days going through Strawberry passage, except with a strictly head wind?

Mr. Rieser: I object to that as incompetent, irrelevant and immaterial, and it doesn't relate to the issues in this case, and the witness not qualified, and no sufficient foundation laid.

Mr. Sawyer: Now you may answer.

A. No; I never seen any trouble going through there, except, as you say, with a heavy head wind, something of that sort, or a storm.

Q. Have you been through more than once?

A. Yes, sir, a good many times.

Q. In sailing in those days did you ever go up to Death's Door?

A. Yes, sir.

Q. Do you know what course the boats in those days took in going from Green Bay into Lake Michigan, and vice versa?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, and does not relate to the time within the issues of this suit.

Mr Sawyer: You may answer.

A. They would go through the Door, Death's Door.

[fol. 135] Q. Do you remember any incident of your being up there in a sail boat in a storm, at the time of a storm?

A. Yes, sir.

Q. Can you tell about when that was?

A. Along in '61, I think.
Q. What did you observe in regard to boats in the Door at that time, if anything?

Mr. Rieser: I object to that for the reason that it is incompetent, irrelevant and immaterial, and relates to a time other than that within the issues of this lawsuit.

A. We were wind-bound there for three days in Washington harbor.

Mr. Sawyer: And in connection with that did you see the passage of the Door?

A. Yes, sir.
Q. Were you in it?
A. Yes, right on the point, right at the edge of the Door, you might say.
Q. And did you observe any other vessels?

Mr. Rieser: Same objection.

A. Yes, sir.
Mr. Sawyer: State what you observed in regard to other vessels?

Mr. Rieser: Same objection.

A. Yes, I saw—There must have been twenty or twenty-five ves-
[fol. 136] sels anchored there in the Door waiting for the wind to change, or the storm to go down; and there was a steamboat at the same time called the Michigan, a side-wheeler, Buffalo boat, she was bound for Green Bay, and the wind was so heavy she couldn't navigate, so she lay by in Washington harbor. We ourselves started out three times, and we were drove clear around the island to what was called Jackson's harbor, on the east shore.
Mr. Sawyer: Where was that anchorage where you saw all those boats?

Mr. Rieser: Same objection.

Mr. Sawyer: Or where is the anchorage where you saw all those boats?
A. Well, it is between Pilot Island and Plum Island.
Q. In Death's Door?
A. Yes, sir, in Death's Door.
Q. Did you see what course the steamer Michigan took on that occasion?

Mr. Rieser: I object to that for the reason that — is incompetent, irrelevant and immaterial, and not within the issues in this case, and doesn't relate to a time within the issues of the case.

A. Of course, the steamer came up the lake through—Well, she must have come through the Rock Island passage at that time.
Mr. Sawyer: She came from Buffalo, you say?
[fol. 137] A. Yes, sir; she came from Buffalo.

Q. Did you notice what course she took down the Bay, what channel?

Mr. Rieser: Same objection.

A. No, I didn't. But all the Buffalo boats used to stop at Fish Creek. That would naturally bring them up through the Strawberry channel.

Mr. Rieser: I ask that the last part of that answer be stricken out as not responsive.

The Commissioner: Do you desire a ruling on it from me?

Mr. Sawyer: No, I don't think so.

Mr. Rieser: No, I won't insist on a ruling from you, Judge.

Mr. Sawyer: Did you observe generally the course that was taken by the Buffalo boats in those days through Green Bay, and the channels that the Buffalo boats generally used?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, and relates to a time other than that when the boundary line was established.

Mr. Sawyer: Now you may answer.

A. They always came up through the Strawberry passage.

Mr. Sawyer: That is all.

Cross-examination by Mr. Rieser:

[fol. 138] Q. How old are you, Mr. Dobeas?

A. Seventy-seven.

Q. About how far back do you remember the conditions that you have described now?

A. Oh, along in '60, and -'61, and '62.

Mr. Rieser: That is all.

THOMAS R. HASLEY, having been heretofore duly sworn, was recalled and testified further on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. Mr. Hasley, I show you plaintiff's proposed Exhibit 108, the same being certain sheets from the Second Report of the Railroad Commission of Wisconsin on Water Powers, 1918 to 1923; have you examined this exhibit?

A. I have.

Q. Have you made a computation from this exhibit as to the comparative discharge of the water in the west branch of the Montreal River as the figures are given in the report, and the discharge, as given in the report, in what is called the Montreal River?

A. Yes.

Q. Which is the larger?

A. The west branch.

Mr. Rieser: Now, what do you mean, the river, or the discharge of the water?

[fol. 139] Mr. Sawyer: The discharge of the water I am speaking of, as shown by the report.

Mr. Reiser: And that is as you understand the question, Mr. Hasley?

A. Yes; I am referring to the amount of water.

Mr. Sawyer: Your computation has been based entirely upon this report, has it?

A. Yes, sir.

Q. Can you say how much larger the west branch is than the east branch, according to this report?

Mr. Rieser: I object to that for the reason it assumes something which the report does not show, and that is that there is any difference in size, the exhibit being merely evidence of the amount of water discharged.

Mr. Sawyer: You may answer.

The Witness: Will you read the question?

(Last question read as follows: "Can you say how much larger the west branch is than the east branch, according to this report?")

Mr. Sawyer: I will change that—How much larger the west branch is than this stream called the Montreal, according to this report?

Mr. Rieser: Same objection.

A. Well, I took that report for the years 1919 and 1920, and 1920 and 1921, and from the figures that I get there with reference to the second feet delivered off the different drainage areas in the first men-

[fol. 140] tioned years, that is to say, 1919 and 1920, it would be forty per cent in run-off.

Mr. Sawyer: Forty per cent?

A. Greater.

Q. In the west branch?

A. In the west branch in the quantity. And in the second period of years, that is, 1920 and 1921, fifty per cent.

Q. Fifty per cent greater in the west branch?

A. Yes.

Q. Have you any other period covered?

A. No; that is all I had time to go into.

Q. Did you arrive at this as an average from the detail figures given?

A. Yes, that was from an average.

Mr. Sawyer: That is all.

Cross-examination by Mr. Rieser:

Q. Mr. Hasley, have you made any study of the detail figures at all to determine the curve of the flow?

A. No; I didn't have time to go into that detail.

Q. And you cannot say whether or not during the majority of the time when water was at about normal flow the flow was substantially the same in both streams?

A. No. There would be variation.

Q. Did you also take into consideration the note on page 318? [fol. 141] A. What is that note?

Q. "Discharge in second feet per square mile and run-off depth in inches in drainage area, computed on basis of drainage area of seventy square miles. See corrected drainage given in station description"?

A. No. I took seventy-eight square miles as the drainage area in that district, as given on the previous pages, the ones on which I was working.

Q. Did you see the corrected drainage area station description?

A. No, I did not.

Q. And you did not compute your estimate on that corrected drainage area description?

A. No.

Q. And your estimates there of percentages relates to a comparison of second feet of flow per square mile of area drained?

A. Of drainage area, yes.

Q. Of drainage area?

A. Yes.

Q. And what would you say as to which of these two rivers has the largest drainage area?

A. The west branch.

Q. Has the largest drainage area?

A. According to the book, yes.

Q. And if the corrected figures should show that the east branch [fol. 142] had the largest drainage area that would materially change your estimate, wouldn't it?

A. It would, yes.

Mr. Rieser: That is all.

Redirect examination by Mr. Sawyer:

Q. But your percentages are based upon the figures that are given here?

A. Yes.

Q. And those figures purport to be given from the measurements of the flow, do they not?

A. Yes.

Mr. Sawyer: That is all.

Recross-examination by Mr. Rieser:

Q. And as part of these figures you have also the drainage area given, haven't you?

A. Yes.

Q. And the note I have referred to is part of that exhibit; have you noticed that?
A. That note to which you refer?
Q. On page 318; is that right, Mr. Hasley?
A. You asked me if I used this seventy square miles.
Q. No, the note referred to (indicating)?
A. No, I didn't take that into consideration.

Mr. Rieser: That is all.

Mr. Sawyer: At the head of this table, on page 311 did you use the figures per square mile, or did you use the figures giving the maximum, minimum and mean discharge?
[fol. 143] A. No; I used the discharge in second feet per square mile of drainage area.
Q. Now can you say whether those figures are based on the three previous columns?
A. This result is arrived at in some way from these other columns.
Q. Then I am going to ask you, if you will, Mr. Hasley, to take this, and come back tomorrow on our call, and figure and give us the comparative size, figured from the mean discharge in second feet, independent of the area, which seems to be the third column?
A. Yes, I can do that.

Mr. Sawyer: All right; then that will be all today.

At this point, there being no further witnesses present, and the hour of adjournment having arrived, the further hearing of this cause was adjourned to tomorrow, September the 5th, 1924, to be resumed at ten o'clock A. M. at the same place; and on September the 5th, at ten o'clock A. M. pursuant to adjournment, the taking of further testimony on behalf of plaintiff was resumed at Menominee, Michigan, the plaintiff and defendant being erspectively represented by counsel heretofore mentioned.

[fol. 144] Captain J. M. Clow, being duly sworn, on his oath testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. Captain, you live here in Menominee?
A. I live in Marinette.
Q. In Marinette; and how old are you, Captain?
A. Seventy-six.
Q. And what has been your life occupation principally?
A. Mariner.
Q. Did you ever sail on any of the Buffalo boats, or did you ever run on any of the Buffalo boats?
A. I have.
Q. At what age did you commence running, or at what period did you commence running on a Buffalo boat?

A. Well, as far back as I can remember it was—I was along about eighteen or nineteen years of age.

Q. What position did you hold when you were running on a Buffalo boat?

A. I was mate with my father.

Q. Your father was captain of a boat?

A. Yes, Captain and owner.

Q. At that time, if you were about nineteen, that would be about 1869, wouldn't it? At that time what was the general course of your boats from port to port?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, and not within the issues of this case, [fol. 145] and relating to a period of time not within the time when the boundary line was established.

Mr. Sawyer: Now you may answer.

A. Well, from Chicago to Buffalo.

Q. You may state in that connection what you usually carried from point to point?

A. Well, we carried grain from Chicago to Buffalo.

Q. And then what did you carry, and where?

A. Frequently we would go to Cleveland and get a load of coal for Green Bay.

Q. And then what?

A. And then from Green Bay to Oconto or here, but principally Oconto, for lumber to Milwaukee or Chicago.

Q. In passing from Lake Michigan into Green Bay and from Green Bay into Lake Michigan what channel did you usually use?

Mr. Rieser: Same objection.

A. Usually coming up from Buffalo we would take the Rock Island passage coming into Green Bay, and the Door going out.

Mr. Sawyer:

Q. Did you ever take the Door passage coming in?

Mr. Rieser: Same objection.

A. Yes.

Mr. Sawyer: That is all.

Mr. Rieser: No cross examination.

Mr. Sawyer: I do want to ask, how long did you continue on the [fol. 146] Buffalo boat, as near as you can remember?

A. Oh, well, you might say I never stopped until I retired.

Mr. Sawyer: All right; that is all.

Mr. Rieser: That is all.

A. L. BURRIDGE, being duly sworn, on his oath testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. Please state your name?
A. A. L. Burridge.
Q. Where do you reside, Mr. Burridge.
A. Crystal Falls, Michigan.
Q. And what is you occupation, or profession?
A. I am a civil engineer, registered civil engineer.
Q. How long have you been operating as an engineer?
A. Since 1905.
Q. What is the nature of the work that you have been doing, generally?
A. Well, my principal work has been with railroads, bridges, highways and mining work.
Q. Were you employed by the Wisconsin-Michigan Boundary Commission to do any work?
A. Yes sir.
Q. And you worked on the Montreal and Menominee Rivers, did you?
A. Yes, sir.
Q. With whom did you work?
[fol. 147] A. With Mr. George Rupp, of Ironwood as my colleague in the work, and we also had the assistance of Mr. Meredith Sawyer on the Menominee River survey.
Q. Can you tell about when you commenced your work on the Montreal River?
A As I remember, it was in the fall of 1920.
Q. Did you and your co-worker, Mr. Rupp, make a report of your work on the Montreal River?
A. We did.
Q I will show you this paper and ask if that is your report?
A. Yes, sir.
Q. Is this report a fair representation of your work?
A. There are a few supplementary maps will go with that, Mr. Sawyer.
Q. Yes; I will refer to them later. I call your attention to the one portion of the report referring to, I think it is Island Lake. You didn't go in there yourself?
A. No.
Q. That portion of the report you took from Mr. Rupp's report?
A. Mr. Rupp conducted that part of it.
Q. And there is one portion of the report on the last page referring to memorandum of a report of Wisconsin Railroad Commission; you took that only from the report?
A. That is all.
Q With this explanation is that a correct report of your work and observations?

[fol. 148] A. Of course, Mr. Rupp and I co-operated in all this work. I was not on the ground with Mr. Rupp, or around Island Lake.

Q. Except as to that is it a correct report of your observations and your work?

A. It is.

Q. And of the conditions there?

A. Yes, sir.

Mr. Sawyer: I now offer this as plaintiff's Exhibit 170.

Mr. Rieser: That is objected to for the reason it is incompetent, irrelevant and immaterial, and no sufficient foundation laid, and relates to conditions at a time other than the time at issue in this suit; also based upon other evidence which is not part of the exhibit, and conclusions derived therefrom, part of which are hearsay.

Mr. Sawyer: I now show you a map, or blue-print endorsed "Michigan and Wisconsin, showing drainage basins of the west branch of the Montreal River and Montreal River", but with the writing before the last name "east branch of". "Also the portion of Wisconsin affected by boundary change, scale one inch to one mile." Is that the map referred to in your report?

A. Yes, sir.

Q. Do you know who made this map?

A. I examined the map and approved it. It was made under [fol. 149] the direction of Mr. Rupp.

Q. Can you say whether or not that is a substantially correct map as founded on the government charts?

A. As near as I can determine.

Q. The government charts showing the government survey in that region?

A. Yes, sir. I compared it with them.

Mr. Sawyer: I offer that as plaintiff's exhibit 173.

Mr. Rieser: You would say then, Mr. Burridge, this was a consolidated duplicate of the government survey in the region of the Montreal River, and from thence over to Lac Vieux Desert; is that right?

A. Yes, sir.

Mr. Rieser: That is objected to for the reason it is incompetent, irrelevant and immaterial, and not the best evidence; and the same objection as offered to the previous exhibit.

Mr. Sawyer: In making your report on this work, and by reference to this map I notice that you state the drainage area of the east branch to be a larger number of square miles than the west branch, but you mentioned that the east branch drainage area includes quite a large amount of territory drained by a small creek known as Spring Creek coming into the east branch near the mouth of the east branch; does the drainage of that Spring Creek materially affect the flow of the main part of the east branch of the Montreal [fol. 150] River?

Mr. Rieser: I object to that for the reason there is no sufficient foundation laid; it assumes facts not in evidence in this case with respect to the method of determining the drainage area, or that the drainage area has been determined; and for the reasons stated in the objections to exhibits 170 and 173.

Mr. Sawyer: Now, you may give your answer.

A. The volume would not be affected by this Spring Creek except in flood-time, because at certain seasons of the year this creek is known to be dry.

Q. At those seasons how much of the east branch of the Montreal would be affected by that?

Mr. Rieser: What do you refer to by "Those seasons"?

Mr. Sawyer: By the flood seasons he spoke of.

A. It would just be the lower part.

Q. Below where the creek enters into the east branch?

A. Yes, sir.

Q. Will you look at this map, please, that you have just referred to and tell us how near is the junction of that creek and the east branch to the junction of the east and west branches?

A. It is about two miles.

Q. Then only that two miles would be affected at all?

A. Yes, sir.

Q. By the flow from Spring Creek?

A. Yes, sir.

Q. Deducting the area drained by Spring Creek from the area [fol. 151] given as drained by the east branch, which would then have the largest drainage?

Mr. Rieser: Objected to for the reason it is incompetent, irrelevant and immaterial.

A. The west branch would have the largest drainage.

Mr. Sawyer: I now show you plaintiff's proposed Exhibit 112, purporting and claimed to be a map of Montreal River, being map number 4 of Captain Cram's report of his work in 1841, endorsed "Surveyed under the direction of T. J. Cram, Captain C. E. in July and August 1841." Have you examined this map?

A. I have.

Q. Or sketch?

A. Yes, sir.

Q. Have you compared that map with the Exhibit 173 just referred to?

A. I have.

Q. From your comparison of this with the charts of the government survey can you tell whether or not this Cram sketch or map was made from a survey, or simply as a sketch?

A. It is very evident it is just a sketch.

Q. Are there any indications as to any bearing points?

A. It is tied in to no——

Mr. Rieser: I object to that for the reason the map itself is the best evidence.

Mr. Sawyer: You may answer.

A. That map is tied in to no established government corners.

[fol. 152] Q. In comparing it with the map of the government surveys and with the course of the river as given on the government surveys can you say whether or not this exhibit, number 112, correctly describes the course of what is there called the Montreal River?

Mr. Rieser: Objected to for the reason it is incompetent, irrelevant and immaterial.

A. It is just approximate.

Mr. Sawyer: In examining certain portions of it can you plainly tell that it is incorrect?

Mr. Rieser: I object to that for the reason it is leading and suggestive.

Mr. Sawyer: Well, I will withdraw that question.

Q. Will you please refer to certain sections of the river—If you will step around here and look at this. Will you please refer to certain sections of the river as shown on Exhibit 173, and compared with the map, Exhibit 112 tell wherein they differ?

Mr. Rieser: I object to that for the reason it is assuming something not in evidence, and incompetent, irrelevant and immaterial; and that the maps themselves are the best evidence as to what they show.

Mr. Sawyer: You may answer.

A. It is readily seen from comparing this sketch with the government survey, which we know and have tied in there and know it to be correct within the legal degree of accuracy, that these sketch proportions of the different variations of curves and directions in [fol. 153] the river are not the same as on the government survey of the river.

Q. And from your observation can you say whether the government survey is a correct representation of the rivers as they exist?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial.

A. We can introduce our original field notes where we absolutely tied in on all of the Montreal River. We absolutely know they are correct, because we made a survey of it.

Mr. Sawyer: Then from those observations and examinations will you state whether or not this Cram map, Exhibit 112, is a correct delineation of the course of that river?

Mr. Rieser: Same objection.

A. It is not.

Mr. Sawyer: I call your attention now to a line indicated on Cram's map, Exhibit 112, as starting just east of the mouth of the Montreal River, following up and crossing the main channel below the forks, following along up and crossing a creek called Poplar Creek, also a creek called Hemlock Creek, and a stream called Middle River, and another one called Little Log River. Now, in that connection I want to ask you if you have compared that line and that map with defendant's Exhibit number 7, purporting to be copies of Douglass Houghton's Journal, and traced the descriptions [fol. 154] in the Journal of a trail, and can you say from those comparisons whether that line substantially indicates what he describes as the trail leading from La Point to Prairie Du Chien?

A. It does.

Mr. Rieser: Just a moment. I ask that that answer be stricken out; and I object to the question on the ground that it is incompetent, irrelevant and immaterial, and that the maps themselves are the best evidence of what they show, or purport to show.

Mr. Sawyer: You are somewhat familiar with that country, are you not, from your examinations?

A. Yes, sir.

Q. Having reviewed the second portion of Exhibit 7, purporting to show portions of Douglass Houghton's Journal for 1841, I call your attention to the point where he describes his trip up what he calls Montreal River, and he mentions passing Hemlock Creek, a stream 35 or 40 feet wide, as he states. Can you locate on this map what must have been that creek, or that stream?

Mr. Rieser: Objected to for the reason it is incompetent, irrelevant and immaterial, no sufficient foundation laid, and the records themselves are the best evidence.

[fol. 155] A. That is what we call in our report the west branch of the Montreal.

Mr. Sawyer: State whether or not that is located substantially where he calls it the Middle River?

A. It is.

Q. Tracing his description of the Montreal River as given in that portion of his Journal pertaining to his work of 1840 as nearly as you could trace it how far up the trail did he go?

A. Well, he went practically to the first crossing up here, right in here (indicating), about up to what he called Poplar Creek.

Q. That is a creek running into the river from the west?

A. Yes, sir.

Q. And below the forks?

A. Yes, sir, below the forks.

Q. Tracing from his Journal as nearly as you can his work of the second season how far up did you trace him?

A. He went up here to where they call this (indicating) Astronomical Station Number 2.

Q. That is shown on Exhibit number 112?

A. Yes, sir.

Q. And it is marked on that map as "Head of Montreal River," is it not?

A. Yes, sir.

Q. I now call your attention to page 299 of the Douglass Houghton Journal of 1841, and to a sketch thereon referring to the Montreal River; will you please examine that sketch and the stream [fol. 156] thereon labeled as "Hemlock Creek" and state if you can what that stream is now called, the stream thereon labeled as Hemlock Creek.

Mr. Rieser: Objected to for the reason it is incompetent, irrelevant, and assuming facts not appearing of record.

A. That is what we call west branch of the Montreal.

Mr. Sawyer: I read from that same page of the Houghton Journal, "Captain Cram represents the granite to commence on the Montreal portage at Little Meadow, two miles south from Middle River, but that it is here mostly composed of felspar and quartz. Wild"—there is one word I can't make out here—"aquatic is of frequent occurrence in the upper parts of the Montreal River, though not in very great abundance. Saw an abundance of partridges, rough grouse, and pigeons, and numerious cuttings of beaver. Captain Cram mentions having seen red sand stones at Middle River and at sundry places in the valley between the knobby hills." Now, that appears shortly following the sketch referred to, and the Douglass Houghton sketch referred to doesn't seem to mention any Middle River; but comparing this sketch with Exhibit 104 made under the directions of Captain Cram that same year, what can you say as to whether Hemlock Creek shown on this sketch represents the Middle River shown on the Captain Cram sketch?

[fol. 157] A. Hemlock River and Middle River are practically the same river, only going under a different name on each sketch.

Q. Hemlock River shown on the Houghton sketch is practically the same as the Middle River shown on the Captain Cram sketch, Exhibit number 112.

A. It is.

Mr. Rieser: I object to that for the reason it assumes something not in evidence, for the reason there is no Hemlock River shown on the exhibit.

Mr. Sawyer: I will correct that by saying Hemlock Creek. Is that what you referred to?

A. Yes, sir.

Q. And you reviewed this report of Douglas Houghton's this morning, did you not?

A. Yes, sir.

Q. From that report where does it appear that Captain Cram traveled from the mouth of the Montreal upwards?

A. Where Captain Cram traveled?

Q. Yes.

A. He traveled along the trail here (indicating).

Q. And Houghton, you say, from your examination, that he traveled up what we call the east branch?
A. He went up the east branch.

Mr. Rieser: Or what he calls the Montreal River?
A. Yes, sir.

Mr. Sawyer: What Cram called the Montreal River.
Mr. Rieser: What Mr. Houghton refers to in his notes as the [fol. 158] Montreal River; isn't that true?
A. I don't remember that.
Mr. Sawyer: From what appears in the Houghton notes as to the trips made by himself and Captain Cram from the mouth of the Montreal River to a point above the Astronomical Station Number Two, as shown on Exhibit 104, would you say that Captain Cram ever traversed the Montreal River, judging from that report?

Mr. Rieser: I object to that for the reason the report is the best evidence as to what it contains, and as to what conclusions are to be drawn from it, and this witness is incompetent to testify, and it is incompetent, irrelevant and immaterial.

Mr. Sawyer: You may answer.
A. I doubt very much that he ever did.
Q. The report doesn't show that he ever did, does it?
A. No, sir.

Mr. Rieser: I object to that for the reason the report is the best evidence.

Mr. Sawyer: From your experience as an engineer in the field, and from reading the notes of Douglas Houghton, from which it appears that Houghton and Cram, following up these two courses, the trail and what we call the east branch of the Montreal River, and joining near the head thereof—were joined also by Colonel Webster, who is reported by Houghton to have come in from Lac [fol. 159] Vieux Desert, would you say that that meeting must have been by appointment?
A. That was Lieutenant Webster.

Mr. Rieser: Just a moment. I object to that for the reason it is incompetent, irrelevant and immaterial, and that the records themselves are the best evidence.

Mr. Sawyer: Answer the question.
A. My experience would teach me that since Houghton and Cram met before Houghton went on this trip up the Montreal, and as Houghton was aware of Captain Cram's inability to reach the head waters of the Montreal from Lac Vieux Desert, the natural thing to do, considering that they had no other markings at that time at which they might meet, and knowing the head waters of the Montreal were unknown, to establish an astronomical point, or a place of meeting which they both could find, and there is no doubt that one man starting from Lac Vieux Desert and the other from the Mon-

treal had this point as their objective, and went to it the easiest and quickest way.

Q. Now, I call your attention further to the Cram sketch, Number 112, and to the sketch in the Houghton Journal on page 299, and ask you from an examination of those two sketches whether it appears that a survey, or close examination was then made of what we call the west branch of the Montreal River?

[fol. 160] Mr. Rieser: Objected to for the reason the record is the best evidence.

A. I doubt that what we call the west branch was ever explored by those gentlemen at all.

Mr. Sawyer: Is it anywhere nearly correctly shown on either of these sketches?

A. No.

Q. From your observation of those two branches, and your surveying and measuring thereof, if Captain Cram had reviewed both streams, called by the plaintiff the east and west branches of the Montreal, in your judgment would Captain Cram have called the east branch the main channel?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, this witness not competent to testify, and it assumes matters not in evidence, and for the further fact that there has not been sufficient foundation laid for the testimony.

Mr. Sawyer: You may answer.

A. From observation, if he traveled, especially from Lake Superior to where these two branches meet, there is no question in my mind but what he would call the west branch the main channel. But taking the time that this survey was made, and of an engineer appreciating the condition of the country, even as it is today, the natural thing for a man to do, he would want to reach his objective over [fol. 161] the shortest route, which is this astronomical point established by him and Houghton, and it would be the natural thing for a man to follow the streams that were followed in those days in order to portage and take care of their provisions on water; and it would be the natural thing for him, as his general direction was east southeast to take the east branch.

Q. Now, in making the survey at the junction of the east and west branches of the Montreal River, or where, according to Exhibit Number 112, what is there called Middle River joins the there called Montreal River, did you and Mr. Rupp make a very careful examination?

A. We did.

Q. Did you make notes of your examination?

A. We made notes and sketches of that point?

Q. I will show you this field book and ask you if that page and that sketch there referred to (indicating) were made by you, or Mr. Rupp, or the two in conjunction at that time?

A. They were.

Q. Will you read your notes as to the comparative size of the two rivers at that point?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, no sufficient foundation laid; and it relates to a time entirely different than that of the establishment of the boundary.

[fol. 162] A. (Reading:) "November 6th, 1920. Went to junction of east and west branches of Montreal River. Each branch filled with flood wood, west branch clear, and water red. West branch measured thirty-five feet in width, east branch about twenty-five feet in width. Chained then due west nine hundred and fifty-six feet from junction point of the east and west channel to the north and south range line, then chained south seventeen hundred and fifty-three feet along the center township road to fence line on east and west section line." We did that to determine this point correctly.

Mr. Sawyer: In that connection did you make a sketch showing the junction of the two rivers, and the situation immediately below?

A. We made a sketch showing the junction and determining the channel as it now exists.

Q. Is that a correct sketch?

A. It is a correct sketch. It is not an absolutely correct map; what I mean by that is what we call measured down to the nearest inch.

Q. How was it made?

A. It was made by taking the measurements with tape and compass, and by observation.

Q. And then I understand you to say except for the very fine measurements that is a correct sketch?

A. Yes, sir.

[fol. 163] Q. Will you have that reproduced as a tracing correct and present it here?

A. Yes, sir.

Mr. Sawyer: I will offer these two pages of the book in evidence.

A. Nineteen and twenty.

Mr. Sawyer: And will ask you to take them from the book, and we will put them in evidence; but we will also put in the tracing. We will offer this tracing as plaintiff's Exhibit 171.

Mr. Rieser: Note an objection to the exhibits, that they are incompetent, irrelevant and immaterial, no sufficient foundation laid, and that they relate to a time entirely different than when the boundary line was established, or fixed.

Mr. Sawyer: I desire to withdraw this witness temporarily, and put on another witness in regard to the Montreal River section at this time.

GEORGE H. RUPP, being duly sworn, on his oath testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. Please state your name?
A. George H. Rupp.
Q. Mr. Rupp, where is your home?
A. Bessemer, Michigan.
Q. And what is your occupation or profession?
[fol. 164] A. Civil and mining engineer.
Q. How long have you been such?
A. Since 1911.
Q. And what has been your general experience as an engineer since that time?
A. Road building, surveying, exploring, and mining.
Q. Have you been on any extensive exploring work?
A. Yes.
Q. Where, and when?
A. That is quite a long list.
Q. Well, give some of the instances.
A. Well, we went north in 1920 and '21 for the Canadian Government, and Hayden, Stone & Company, of New York, to explore the newly discovered Belcher Islands, which are north of the barren lines in Hudson Bay. I wrote the preliminary report on that. I done some work in Oklahoma, North Texas, together with considerable mining examination work in the Lake Superior iron ranges.
Q. I guess that will be sufficient in that line. Did you do work in connection with Mr. Burridge for the Michigan Boundary Commission?
A. I did.
Q. You were present while Mr. Burridge was testifying?
A. Yes.
Q. And it was in connection with that work that you worked with him?
[fol. 165] Q. Now, will you look at this blue-print offered as plaintiff's Exhibit 173 and tell me what that is?
A. That is a map that I had prepared from the government township plats, and is merely a compilation of the government survey work.
Q. And that was prepared under your instructions and directions?
A. It was.
Q. What can you say as to whether it is a correct representation of that country in accordance with the government surveys as shown by the government plats?
A. It is correct as far as—We merely copied the government survey notes.
Q. And that is a correct copy?
A. It is a correct copy.
Q. Did you compute the drainage area as shown from that map of the east and the west branches of the Montreal?
A. We did.

Q. I show you Exhibit 170, purporting to be report of the engineers of the work on the Montreal, and is signed by yourself and Mr. Burridge; have you reviewed that report?

A. I have.

Q. And what can you say as to its being a correct representation of your work and observations in that region?

A. It is.

Q. In making your report of the area of the two branches of the Montreal did your report of the drainage area of the east branch include the area drained by Spring Creek?

[fol. 166] A. We included the Spring Creek area.

Q. That is, Spring Creek as shown on Exhibit 173?

A. Yes, sir.

Q. What can you say as to whether the drainage through Spring Creek materially affects the flow, or the strength of the channel of the east branch of the Montreal River?

A. There is very little water coming down Spring Creek. It does not materially affect the flow in the main channel of the east branch.

Q. Can you tell why there is little water coming from that way, anything in the bed of the stream?

A. Well, at this time the City of Ironwood waterworks is located in a gravel bed alongside.

Q. Would that gravel bed naturally take the water?

A. Yes. They didn't have sufficient water, and they dammed it up.

Q. I know, but originally would the gravel bed naturally absorb any of the water of the stream?

A. No.

Q. Well, would the flow of the stream coming into the east branch of the Montreal have any effect as to the volume of the stream above its junction?

A. Not above its junction, no.

Q. And for how long a distance, looking at the map, would it affect the east branch below its junction with the same?

[fol. 167] A. Oh, it is approximately two miles, as shown by the map.

Q. If you deduct the drainage area drained by Spring Creek from the drainage here given as of the east branch which then would have the largest drainage area?

Mr. Rieser: That is objected to for the reason it is incompetent, irrelevant and immaterial, and no sufficient foundation laid, and relates to a time entirely different than at the time at issue in this lawsuit.

A. The west branch would have the larger drainage area.

Mr. Sawyer: From your observations can you tell any other source of water supply for the west branch than simply the rainfall?

A. There is no other water going into it at present except a small amount that is being pumped in by the Oliver Mine.

Q. I refer to whether there are any springs helping to feed it?
A. Yes; there are springs along the banks, of course.
Q. Of the west branch?
A. Yes, particularly up near the head waters.
Q. From your observations other than the measurements given in your report which would you say was the largest stream, the east or the west branch?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, and that it relates to a time entirely different than that at issue in this suit, and no sufficient foundation [fol. 168] laid.

A. The west branch is the larger.
Mr. Sawyer: Do you recall a visit to the two branches, the east and west branches of the Montreal, made by yourself and Mr. Burridge and the three members of the Michigan Commission about the time you started the work?
A. I do.
Q. And do you remember a careful examination by all of them in company for the purpose of trying to determine the comparative size of the streams?
A. I remember it.
Q. What was the opinion as expressed at that time by any or all of them?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, and he-rsay, and improper.

A. It was very evident to all of them that the east branch was very much smaller than the west branch, as it is at most any time.

Mr. Rieser: I ask that the last part of the witness' testimony be stricken out, as not responsive, and as improper.

Mr. Sawyer: You say you live at Bessemer?
A. Yes, sir.
Q. How far is that from Ironwood and Hurley?
A. About seven miles.
[fol 169] Q. Your work has been in that vicinity for how long?
A. I was born in Bessemer. I have lived in Ironwood about eleven or twelve years, up until last fall.
Q. So that on that account what can you say as to whether or not you are very familiar with all that part of the country?
A. I am familiar with it, as I had ought to be.
Q. From your work and from your observations of that country will you state the nature of the country around Island Lake, as shown on Exhibit 173, being near the head of the west branch, at the head of the west branch?

Mr. Rieser: Object to as incompetent, irrelevant and immaterial.

Mr. Sawyer: As to whether or not it is a wilderness?
A. The head waters, or the land around Island Lake is still

covered with the original timber, or was at the time of my last visit up there.

Q. And when was that?

A. The time we made the survey. As I recall it it was in the winter of 1921.

Q. Mr. Burridge was not with you on that particular part of the survey?

A. He was not.

Q. Can you relate any incident in getting in there to illustrate the character of the country?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial.

A. Only that we slept in the woods all night.

[fol. 170] Mr. Sawyer: Well, tell the occasion of it, if you please.

Mr. Rieser: Same objection. That is nothing unusual for an engineer.

The Witness: Yes, it is, this particular engineer.

Mr. Rieser: It may be for a water power engineer.

The Witness: Well, we intended to make that survey on the ice, for the reason that that is much quicker. We didn't have the time that was necessary; and by establishing stations on the ice we could use stadium measurements around on the shore. So we went up I believe late in January, and we followed an old logging trail that followed the west branch. There were three of us, to begin with; we later got two more men. And we walked until half past ten, until we were all played out, and then camped around a pine stump.

Mr. Sawyer: How far did that prove to be from the lake?

A. About a half mile; but we didn't know it, or we might have rested awhile and gone through.

Q. What was the nature of the country where you camped?

A. We camped at the site of an old dam that was put in there by a lumber company.

Q. What was the nature of the country around it at that time?

A. Oh, there were no settlements up in there; it is all timber.

Q. Tell us as to whether or not your observations informed you as to the probability of the rivers being substantially the same now [fol. 171] that they were in 1836?

Mr. Rieser: Objected to for the reason it is incompetent, irrelevant and immaterial, and no sufficient foundation laid.

A. When the timber covered all that country naturally the water flow was steadier than it is at this time, when part of the covering has been removed.

Mr. Sawyer: Is there any of the covering remaining?

A. Yes. At the head waters of both branches the original timber is still standing. I refer particularly to this district around Ironwood and Hurley, where, naturally, the timber has been all removed.

Q. In your work did you observe the banks of the two streams for the purpose of determining whether there had been any material change in the flow of the water?

A. We did, particularly to determine whether there had been any changes due to logging operations, or movements in the river itself.

Q. What was your conclusion in that regard?

Mr. Rieser: Objected to for the reason it is incompetent, irrelevant and immaterial, and no sufficient foundation laid, and the witness not competent to testify.

A. We found timber all along the banks of both streams there probably a hundred years or more old that was still intact; so that there had been no great changes along the banks of either stream.

[fol. 172] Mr. Sawyer: From the nature of the banks could you draw that conclusion as being a safe conclusion?

Mr. Rieser: Same objection.

A. Yes. Any change in water level, or any change of the bank would naturally destroy the timber.

Mr. Sawyer: I call your attention to defendant's Exhibit number 7, being sheets from the journal of Douglas Houghton, made in the years 1840 and 1841. Have you reviewed that exhibit, and in that connection examined the map, Exhibit 173, and the sketch, Exhibit 112?

A. I have.

Q. From that review and observation what do the records of Douglas Houghton as to his work in 1840 show as to where he went that year?

Mr. Rieser: Objected to for the reason the record is the best evidence.

Mr. Sawyer: Now, referring to Exhibit 173, will you state what his notes indicate as to his course?

Mr. Rieser: Same objection.

A. I take it, largely from his description of the geology in there, that he went on to the second trap range, which is a short distance above what he has labeled "Poplar Creek."

Mr. Sawyer: From his notes can you conclude what that course was, I mean as to whether or not it was an established trail?

[fol. 173] Mr. Rieser: Objected to for the reason it is incompetent, irrelevant, and immaterial; and for the reasons before given.

A. It was apparently an established trail.

Mr. Sawyer: Referring to his Journal of the following year, 1841, did you trace his course as he described it in connection with this sketch, Exhibit 112?

Mr. Rieser: Same objection.

A. I did.

Mr. Sawyer: Referring to sketch, Exhibit 112, what course did Houghton pursue that year?

Mr. Rieser: Same objection.

A. He followed the east branch of the Montreal River to the station, or to a point marked "Astronomical Station Number Two."

Mr. Sawyer: And from his Journal what course did Captain Cram take that year at the same time?

Mr. Rieser: Same objection.

A. Apparently he followed the trail which is shown on the map to the same point.

Mr. Sawyer: From Douglas Houghton's Journal where he refers to passing Hemlock Creek, the mouth of Hemlock Creek, which he refers to as a stream thirty-five or forty feet wide, what was that stream named on the Cram map?

[fol. 174] Mr. Rieser: Same objection.

A. I do not recall what Cram called that. I am mixed up in these names.

Mr. Sawyer: I read you from his Journal on July 25th, 1841 (reading): "Embarked at five and a half o'clock A. M., and proceeded up the river. Passed the mouths of several small streams (creeks) coming into the river from the west. Among these Hemlock Creek is forty to fifty feet wide at its mouth."

A. That would refer to the river that we now call the west branch of the Montreal.

Q. You have measured the east branch at that point, have you?

A. I have.

Q. How wide is the east branch at that point?

A. About twenty-five feet, as I recall.

Q. You measured the west branch also?

A. Yes, sir.

Q. How wide is the west branch at that point?

A. As I remember it, it is around thirty-five feet.

Q. As shown in your report?

A. It is stated accurately in the report.

Q. Was that covered by the minutes read by Mr. Burridge?

A. Yes. It is in the report, anyway.

Q. The minutes as read in evidence are the minutes that you and Mr. Burridge made at that time, are they?

A. Yes.

Q. Now, this being July 26th, what can you say as to whether [fol. 175] or not that was probably the flood stage of the rivers at that time?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, and the records themselves are the best evidence.

Mr. Sawyer: You may answer.

A. Well, the report states it was at flood stage.

Q. It was at flood stage. Then that occasions the difference between his report and your measurements?

A. Yes, sir.

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, and calls for a conclusion of the witness, and no sufficient foundation laid.

Mr. Sawyer: Your answer was what?

A. Yes.

Q. You say that you notice by the report that Douglas Houghton followed what we call the east branch up to Astronomical Station Number Two?

A. Yes, sir.

Q. And that near that point he met Captain Cram?

A. At least, he met one of Captain Cram's men.

Q. I refer to page 299 of Douglas Houghton's notes, and read "Captain Cram represents the granite to commence on the Montread portage at Little Meadow, two miles south from Middle River, but that it is here mostly composed of fel-spar and quartz. Wild zinnia aquatic is of frequent occurrence in the upper parts of the [fol. 176] Montreal River, though not in very great abundance. Saw an abundance of partridges (*rough* grouse), and pigeons, and numerous cuttings of beaver. Captain Cram mentions having seen red sand-stones at Middle River and at sundry places in the valley between the knobby hills." Referring in that connection to Exhibit 112 where the trail crosses what is there called Middle River what would you say that river is as known to you now?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial.

A. The west branch of the Montreal.

Mr. Sawyer: You have examined that part of the country, have you?

A. Yes, sir.

Q. And you are certain of that?

A. Yes, sir, because that point is south of the iron formation, and in what we call the Laurentian granite.

Q. Reading further, "July 28th, Wednesday. Remained at Astronomical station between the rivers Gros Pine and Sabin, engaged in astronomical observations." In that connection, as an explanation, in another part of this report he calls the Sabin the Balsam, and he puts the one in parenthesis. But referring to that point he says, "This day Lieutenant Webster came up with his party. In attempting to run a line from Lac Vieux Desert to the head of Montreal River he fell upon the easterly branch of the Ontonagon

[fol. 177] River, which he meandered to its mouth. He represents the stream to be exceedingly rapid, with numerous falls. The upper part of the stream appears to be over granite. Then comes a range of green stone, then a less compact tract, and then red sand-stones and clay hills. One of the men mentions what he supposed to be a mass of native copper, with quartz", and so forth. From the fact shown, that that was a wilderness at that time, and that Douglas Houghton followed up what we now call the east branch of the Montreal, as indicated by his report, and that Captain Cram followed up that trail, as shown on map number 4, and that the two met at substantially the place where the trail crosses what he there calls the Sabin River, and what is since called the Balsam, and in that vicinity they met Lieutenant Webster coming from Lac Vieux Desert, considering those facts in connection with your experience as an engineer in the field, what would you say as to whether or not such a meeting had been previously planned?

Mr. Rieser: I object to that for the reason it is incompetent irrelevant and immaterial, and no sufficient foundation laid, and the witness not qualified to testify.

A. Since that country was all wilderness, and they had an astronomical station established up here on the east branch of the Montreal, that was the only definite point of meeting,——

[fol. 178] Mr. Sawyer: Well, supposing that——

A. —and they must have met by——

Q. Supposing that astronomical station was established at that time, what can you say as to whether or not they agreed to pursue certain courses for the purpose of a meeting—whether they had previously agreed to pursue certain courses for the purpose of meeting?

Mr. Rieser: Same objection.

A. They must have agreed to a meeting; otherwise they would never have met in the wilderness.

Mr. Sawyer: He further recites in the Houghton notes, "Captain Cram mentions having seen red sandstones at Middle River and at sundry places in the valleys between the knobby hills." That is what I just referred to, is it?

A. Yes.

Q. This where he speaks of Middle River is what you call the west branch?

Mr. Rieser: Same objection.

A. The west branch.

Mr. Sawyer: I show you now a sketch as it appears on page 299 of the Douglas Houghton Journal for the year 1841, being in defendant's Exhibit Number 7, and ask you if you can tell whether any stream in that sketch indicates the locality of the junction of the east and west branches of the Montreal as they actually exist?

[fol. 179] Mr. Rieser: I object to that for the reason it is incom-

petent, irrelevant and immaterial, and the record is the best evidence, and the witness not qualified.

A. Apparently what is labeled Hemlock Creek on one sketch——

Mr. Sawyer: On the Houghton Sketch?

A. On the Houghton sketch corresponds with Middle River.
Q. On the Cram sketch?
A. On the Cram sketch, which river we now know as the west branch of the Montreal.
Q. From your work in and knowledge of that section of the country can you state whether or not Exhibit Number 112, being the Cram blue-print, was made from actual survey, or whether it is simply a sketch from general observation?

Mr. Rieser: Objected to for the reason it is incompetent, irrelevant and immaterial, and the sketches themselves are the best evidence.

A. It is very apparently just a sketch, and not an accurate survey.
Mr. Sawyer: Have you compared it with Exhibit Number 173, made from the government maps?
A. I have.
Q. From those comparisons is your conclusion confirmed?

Mr. Rieser: Same objection.

A. They are.

Mr. Sawyer: From the same knowledge and information which [fol. 180] you have of that country is Middle River, as it is labeled on that Exhibit 104, a correct delineation of the stream which you call the west branch?
A. It is not.
Q. Can you say from that sketch whether what we call the west branch was then surveyed?
A. It was not surveyed.
Q. Does that indicate that it was explored, any more than being crossed by the trail?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, and the witness not qualified to testify, and the records are the best evidence.

Mr. Sawyer: You may answer.
A. No, it had not been explored; and I base that largely on the reason that the west branch of the Montreal follows a north and south course.
Q. As shown by the government map?
A. As shown by the government map; and according to this map of Captain Cram's it has an entirely different course. If they had run up there and used a compass at all they would have stuck closer to a straight line. He probably had some evidence that there was a lake at the head of it, but that could have been obtained from

Indians, or anybody in that country; but he didn't even take a correct course for it.

[fol. 181] Q. I call your attention again to the Houghton sketch on page 299 of his Journal and ask you if you have compared the course there given by him as the course of what he calls the Montreal River with the government surveys, and if so, whether that course indicates simply being made from general observation, or from survey?

A. That is made from general observation.

Q. Is it in accord with the survey?

A. Not at all. It is simply the sketch that you would expect from a man traveling in the woods, without any base line to run from.

Q. And traveling rather rapidly?

A. Yes; without basing given distances, because he apparently measured his distances in so-called pauses, which are the time between rests while you are packing, and that depends entirely on the character of the ground and the difficulty of getting through, and also the man, or, rather, the weakest man of the party, because you have to take care of him.

Q. You followed up the river from the mouth of the Montreal to the forks, did you?

A. We did.

Q. And if an engineer following up that river was really looking for the main channel of the Montreal at the point where the west and east branches join which branch would he take?

[fol. 182] Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, and no sufficient foundation laid, and the witness not qualified to answer, and assumes facts not in the record, and it is based upon conclusions arrived at from an investigation made at a time other than that at which the surveys were made.

A. Without any doubt he would follow what is now known as the west branch.

Mr. Sawyer: In your work for the Wisconsin-Michigan Boundary Commission of Michigan I understand you to say you did work also on the Menominee River?

A. We did.

Q. I show you this document dated September 19th, 1921, and addressed Honorable Alvah L. Sawyer, Secretary Michigan-Wisconsin Boundary Commission, and ask you if that is the report that you made?

A. It is.

Q. You were joined in that report by Mr. Burridge also, were you?

A. Yes, sir.

Q. Who else did you have with you in that work?

A. Mr. Meredith Sawyer.

Mr. Sawyer: I will offer the original of this report as plaintiff's Exhibit 172.

Mr. Rieser: Objected to for the reason it is incompetent, irrelevant [fol. 183] and immaterial, no sufficient foundation laid, and it is based——

Mr. Sawyer: I will withdraw the offer just now. I think I haven't gone far enough. I will withdraw the offer.

Q. State whether or not this is a correct representation of your work and observations on the Menominee River in connection with its examination for the Boundary Commission?

A. It is.

Mr. Sawyer: Now I will offer it as plaintiff's Exhibit 172.

Mr. Rieser: Same objection, for the reason it is incompetent, irrelevant and immaterial, and that it relates to an investigation at a time different than when the boundary was established, and no sufficient foundation laid.

Mr. Sawyer: What was the general condition of the river at the time you made that examination?

Mr. Rieser: Same objection.

A. It was at low water.

Mr. Sawyer: Can you state whether it was more than usually low at that time?

Mr. Rieser: Same objection.

A. Yes; it was very low at that time.

Mr. Sawyer: From the stage of the water were you aided in de- [fol. 184] termining the main channel?

Mr. Rieser: Objected to for the reasons already given, and for the further reason the witness is not qualified, and no sufficient foundation laid.

A. We were aided very materially, because the water was so low that in the shallower parts of the river we couldn't get our canoe through at all. We had to search for places very often to float our canoe and our packs.

Mr. Sawyer: In making the survey did you have reference occasionally to the government charts on the two sides of the river as to the location of the islands?

A. We carried them with us, and referred to them constantly.

Q. Did you find any islands in the river that were not shown as having been surveyed in either state?

Mr. Rieser: Objected to for the reason it is incompetent, irrelevant and immaterial, and no proper foundation laid.

A. I don't remember; it has been so long ago that one or two islands may have escaped my memory.

Mr. Sawyer: State whether or not it was your effort to and you did locate the islands in reference to the main channel of the river?

A. We did.

Q. In making your report that was shown, was it?
A. Yes, sir.
[fol. 185] Q. And will you state whether in that work you made observation of the banks of the river as to whether or not the channel could have been changed by weather, or other conditions, since 1836?
A. We did.
Q. And was your report made with reference to the channel as you concluded it must have been in 1836?
A. It was.

Mr. Rieser: Just a moment. I object to that for the reason it is incompetent, irrelevant and immaterial, and no proper foundation laid, and the witness not competent to testify.

Mr. Sawyer: Did you find any places where the channel appeared to have been materially changed in the intervening period?

Mr. Rieser: Same objection.

A. That was about four years ago, and we have fully covered it in our report, which I have not had an opportunity to review, except very briefly. But the Menominee River was used, as is well known, for a number of years to float logs that were cut from its tributaries down to Menominee and Marinette. So there are places where logs would pond in lagoons, where attempts have been made to put in piling, and possibly some fillings, so that the logs would not pond in there, so they would float down the main channel.
[fol. 186] Mr. Sawyer: But would that have changed in any way your conclusions and report as to which side of the main channel the islands are?

Mr. Rieser: Same objection.

A. Not at all.
Mr. Sawyer: I mean the main channel as it existed in 1836?

Mr. Rieser: Same objection.

A. Not at all, because they would not put any piling anywhere except in lagoons.

Mr. Rieser: I further object, and ask that the last part of the answer, beginning with "because" be stricken out as not responsive, as a conclusion of the witness, and a conclusion of the witness upon a question upon which he is not qualified to testify, no sufficient foundation laid for the testimony, or to qualify him as an expert to testify upon that question.
Mr. Sawyer: That is all with this witness for the present.

At this point a recess was taken until one thirty o'clock P. M., of the same day; at which hour this cause again came on for hearing, and the following proceedings were had therein, to-wit:

A. L. BURRIDGE, having been heretofore duly sworn, was recalled, and testified further on behalf of the plaintiff as follows:

[fol. 187] Direct examination by Mr. Sawyer:

Q. I believe you stated, Mr. Burridge, that in your work for the Boundary Commission you examined part of the Menominee River in connection with Mr. Rupp?

A. Yes, sir.

Q. And with Meredith Sawyer?

A. Yes, sir.

Q. Did you make a report upon that work?

A. Yes, sir.

Q. Did you return that report to the Secretary of the Commission?

A. Yes, sir.

Q. I will show you this and ask you if you recognize whether or not that is the report, or a carbon copy of it?

A. Yes, sir.

Q. And this is the report that has already been offered as Exhibit 172, which is the Menominee River report. I refer to the report heretofore offered as plaintiff's Exhibit number 172. Will you state whether or not that report is a correct representation of the conditions of the Menominee River as you observed and examined the same?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, not based upon a time that the boundary line was established, and no sufficient foundation laid.

A. Yes, sir.

[fol. 188] Mr. Sawyer: Was it made as of the dates therein stated?

Mr. Rieser: Same objection.

A. Yes, sir.

Mr. Sawyer: I will ask you if you recognize these photographs numbered on the back 1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 15, 16, 19 and 20 as photographs taken in that examination, and referred to in that report?

A. Yes sir.

Mr. Sawyer: That is all.

Cross-examination by Mr. Rieser:

Q. Mr. Burridge, when did you start making your investigation in the Montreal River region?

A. That was in the fall of 1920.

Q. And how long did you work in that area known as the Montreal region, from the point identified on Exhibit 112 as the Astronomical Station Number Two to the mouth of the Montreal River?

A. We worked on there off and on from October 5th, to about the first of December.

Q. Can you tell us how many days you were on the job entirely?

A. How many days I was actually on the job?

Q. Yes, in that region.

A. (Referring to book.) About sixteen days.

Q. And the days were about how long?

A. Pretty long ones. Some of them were fourteen hours long. [fol. 189] We generally started out about five in the morning, and got back sometimes nine and ten at night.

Q. How many were there in your party?

A. There was—It varied. Sometimes Mr. Rupp and myself, and sometimes—most of the time we had a cruiser by the name of Mr. McDavitt, and a gentleman—I have forgotten his name; I haven't got it down here.

Q. Did you have any guides?

A. Mr. McDavitt was the cruiser and guide we had.

Q. Now, you have referred to Exhibit number 112, and I assume you noticed the dotted lines identified as the trail on that exhibit?

A. Yes, sir.

Q. Have you also noticed the same trail on the government surveys as they appear on plaintiff's Exhibit 173?

A. No, I haven't noticed them on 173 at all.

Q. Did you see the originals from which the Exhibit 173 was made?

A. Did I?

Q. Yes.

A. No, sir.

Q. So you don't know what they really show then, do you?

A. I know that they show from the government maps—I took and checked them with the map I had. We had these of townships, and I checked those township maps with this.

Q. But you did not check the original government surveys and the maps drawn as a result of those surveys with Exhibit 173, did you? [fol. 190] A. No, I did not.

Q. You did find a trail however in the region which you were examining, didn't you?

A. We found numerous trails.

Q. But you found this so-called trail leading from the mouth of the Montreal River and then crossing the Montreal River some distance above the mouth?

A. We found a trail on the east side; we went along that for a ways; I don't know how far we went.

Q. Then that trail crossed the Menominee River, didn't it, following along side of it?

A. As we came to each section line and cross section line we tied into Montreal River; therefore we did not follow the trail.

Q. You didn't locate the trail?

A. We didn't on the west side. If there had been a trail on the east side we would have naturally seen it; but on the west side we wouldn't.

Q. And the dotted lines that appear in Exhibit 173, irregular dotted lines, what do they indicate on the map, if you know?

A. That is the drainage area.

Q. And how was that determined?

A. The drainage area is generally determined by the topography of the country.

Q. Did you from an actual examination of the topography of the country determine it?

A. No, I did not.

[fol. 191] Q. How was that determined?

A. Mr. Rupp checked this from the map. I didn't check that. I testified I didn't make this map; Mr. Rupp compiled this map.

Q. You testified however as to the drainage area; now, that drainage area was determined from what maps, do you know?

A. From this one (indicating). But the compilations I made were from this map (indicating).

Q. And you don't know from what drainage areas this map was copied then at all?

A. No, sir, I don't.

Q. But to the extent that the drainage areas are shown on Exhibit 173, it isn't an exact duplicate or reproduction of the original government surveys?

A. I think it is.

Q. Do the original government surveys show the drainage areas?

A. You can determine the drainage areas to a certain extent by seeing the hills and valleys in that area; and the government map and the topographic map will show you that.

Q. On this government map is it determined from an examination of the course of the stream, or is it from an actual examination of the locations of the various hills, and so forth?

A. You can do it from both.

Q. Can you tell from which this drainage area is determined [fol. 192] from an examination of this map?

A. From looking at it?

Q. Yes.

A. No, I can't.

Q. And do you know from what it was determined?

A. No, I don't.

Q. Do you know whether they used contour lines?

A. I don't know whether they used contour lines or not.

Q. The indications are, are they not, that this drainage area is determined from following the ends of the various little streams that arise in that vicinity of the drainage area?

A. That is one way of determining it.

Q. And if that method was followed this drainage area is only a guess or approximation, isn't it?

A. No, not exactly.

Q. It isn't absolutely correct, is it?

A. No, it is not absolutely correct. The contours are not absolutely correct, as far as that is concerned, not in a country like that.

Q. It isn't as correct and as accurate as a drainage area determined from an examination of a map having contour lines?

A. No; you are right.

Q. Now, what did you find the drainage area of the west branch of the Montreal River to be?

A. I have forgotten.

[fol. 193] Mr. Sawyer: It is stated in that report.

Mr. Rieser: I would like to see the report; I haven't had a chance to look at it.

Q. Do you recall whether it was 96.60?

A. I do not recall that.

Q. You can tell that from your report, can't you?

A. Here it is.

Mr. Sawyer: The report being shown to the witness.

The Witness: The watershed area of the east branch is 112.28 square miles, and the watershed area of the west branch is 96.6 square miles.

Q. And was that actually determined by you, Mr. Burridge?

A. No; that was determined by Mr. Rupp in his report, which he submitted to me, and I went over and checked his figures from this map (indicating).

Q. Can you from an examination of the map, Exhibit 173, determine that accurately and exactly?

A. No. As I said before, to determine the drainage area accurately it would be necessary to have a contour or a topographical survey, which it would be almost impossible to get in that whole area.

Q. Then again that is largely only an estimate?

A. It is an estimate, absolutely.

Q. And may vary by ten or fifteen square miles?

A. No; it may vary I would say, probably vary ten per cent one [fol. 194] way or the other.

Q. Now, where did you obtain your data as to the stream flow in the various branches?

A. Well, we measured it ourselves.

Q. In what way?

A. We measured it, the one we measured we measured by taking the—by the float method, they call it, took the area of the stream.

Q. How long a period did you take that measurement?

A. Took it one day.

Q. One whole day?

A. No, not a whole day; part of the day. It took us maybe five or six hours.

Q. Do you recall from your records now what date that was?

A. October 23rd.

Q. 1920?

A. 1920.

Q. And from the result you got from that day's examination you arrived at your conclusion of the mean annual discharge of the east and west branches for the year 1919, did you?

A. Yes, sir.

Q. Now, in your opinion, Mr. Burridge, is that float method of determining stream flow as accurate——

A. Just wait a minute. Let me correct myself there, if you will allow me to.

Q. Yes, certainly.

A. As far as I remember we did not take both of those on the same day. We tried to, but one of them was not susceptible. That is four years ago, and I don't remember.

[fol. 195] Q. In your opinion is the float method of determining the stream flow as accurate as the method used by the United States Government in determining stream flow?

A. No, sir, it isn't.

Q. Again that would only be an approximation, with a possibility of error of about what per cent, in your judgment?

A. As we were taking these for means of comparison the error in one would be the same as the error in the other, and it would be as near a comparison as any. As to get getting the volume of water, I would say they would perhaps ten per cent. If I was taking it for the purpose of getting the cubic feet per second discharged by the stream I would not use that method; but as I was doing this for comparison———

Q. Doesn't it also vary from time to time as you are taking your measurements, the float method?

A. Yes, it certainly would. But we picked a day when there was very little wind and it happened where we were that the streams were well protected by brush, and we did it so that we could get at the same conditions, as near as possible. We tried it once or twice and give it up on account of conditions were not the same.

Q. Mr. Burridge, it is true, isn't it, that the stream flow on both rivers, the west branch and the Montreal River, varies quite materially during the various seasons of the year?

[fol. 196] A. Yes, sir.

Q. And probably the most accurate way of determining the stream flow as between the two a long period of observation should be used; wouldn't that be a fair way?

A. I would say so, yes.

Q. And one made in the summer time, when the rivers are more liable to be near normal that at the time you made your observation would be more apt to show the relative size of the rivers than one made in the winter months, or early spring?

A. I can answer that in this way: When our test was taken it happened to be a very dry fall; it wasn't during the rainy fall season, like we generally have. It was an exceptional season that year; I think the weather reports will show that.

Q. The water was exeremely low then you would say?

A. Yes. I wouldn't say extremely low, but it was very much below normal.

Q. Are you familiar enough with the river to know whether or not that represented the normal or average height of the river during that season of the year?

A. I judged that from the banks.

Q. Well, the banks where you were making your observation there are of gravel, largely, are they not?

A. They vary, gravel and rocks.

Q. And ever high water would change the water mark of the previous year, or tend to?

A. Yes, it would. Of course, I'll tell you, the proper way to tell [fol. 197] is what you see on bushes that are near the river. Of course you can't go back very many years. I couldn't give you that.

Q. Well, the fact is that an observation made and records kept for a period from the early summer, say May or June, up to October or November, from day to day, or week to week, would reflect more accurate figures from which to estimate and compare the stream flow of the two streams, wouldn't it?

A. Absolutely.

Q. In your testimony this morning you stated that in one method of computing your relative stream flow you excluded the Spring Creek area; did you exclude that in determining the relative flow of the east and west branch, as appears on the last page of your report?

A. There wasn't anything to exclude; that creek was dry then practically.

Q. You say it was practically dry; was it discharging anything?

A. The creek was just wet on the bottom when we went over it. There wasn't anything in it to amount to anything.

Q. In that region there is a large amount of underground flow and discharge, isn't there?

A. What do you mean, from the mines?

Q. No, underground springs, and so forth?

A. Now, I don't know. I can't answer that question. I never saw one if there was.

[fol. 198] Q. If there was, to exclude that region of Spring Creek would hardly then reflect a fair ratio of stream flow, would it?

A. Well, it would for that time we took this as a comparison.

Q. Now, did you find any other dry runs in any other section of the region you looked over?

A. Not any more than what we would call little field drainages, or something of that sort. I don't remember of any that amounted to as much as this one did.

Q. Well, there were some of some size?

A. Sure, drainage from fields, a few of them.

Q. And in the region of the hills which form the dividing line between the drainage areas there would be areas from which there would not be any drainage at that time; isn't that correct?

A. Correct.

Q. And you did not exclude those in arriving at your computation?

A. No, sir.

Q. And you did not exclude those dry runs you refer to in the west branch?

A. No, sir.

Q. Is there any reason why that should not have been done as well as excluding Spring Creek?

A. Yes.

Q. What is it?

A. The reason for Spring Creek at certain times of the year, it is a flat stream or creek, while these other places are merely ways for [fol. 199] taking care of the discharge of water during a rainfall, and dry up. They have no origin except from the surrounding territory due to the precipitation.

Q. A river which has a drainage area composed of numerous little streams, Mr. Burridge, will feed its water to the main river slower, will it not, than one that has merely steep places on both sides?

A. Yes, as a rule.

Q. And the creeks line Spring Creek and so forth tend to hold back the flow of water after a heavy rain in the spring of the year?

A. Now, I can't say that about Spring Creek. I don't know whether it would or not. I didn't go up it far enough to tell you. I can't answer that question yes or no, for I don't know.

Q. Did you testify as to water being taken by Ironwood from the head waters of Spring Creek?

A. No, I did not.

Mr. Sawyer: That w-s Mr. Rupp.

Mr. Rieser: The region from the junction or confluence of the west branch and the main Montreal River easterly is developed to some extent as farming country, isn't it?

A. Farming country. It goes right between the towns of Hurley and Ironwood.

Q. And that is especially true of the valley of the Montreal River, isn't it?

[fol. 200] A. You mean the east branch?

Q. Yes, what we call here on these maps the Montreal River.

A. Yes; the east branch and the west branch is the way we generally determine them.

Q. What was then called by Mr. Houghton as the Montreal River, Mr. Burridge, if we want to specialize.

A. If you want to call it that. We call the east branch of the Montreal and the west branch of the Montreal; that is the way we have gone through with it.

Q. And that condition continues from the confluence of this branch or river you call the east branch clear through the city of Hurley and beyond?

A. Yes, sir.

Q. It is true on both sides of the river?

A. You mean it is settled?

Q. Yes, to some extent.

A. Yes, to some extent.

Q And there are quite a few considerable farms in the region a little ways east of the confluence, way up beyond the City of Hurley, large farms

A. There is a few. Of course, there is some mighty wild country, in there, too.

Q. There are numerous roads built through there?

A. Not numerous; there are a few.

Q. They are well built county roads, are they not?

A. No.

Q. Automobile roads?

A. They are what you call township roads.

[fol. 201] Q. With drainage on each side of the roads?

A. Not very much drainage.

Q. Did you look those over carefully to see?

A. I went over them with automobile, and walked over them. They were not in very good condition.

Q. You would say they were not drained at all?

A. No.

Q. Well, were they drained?

A. I would say they were not systematically drained; they were haphazardly drained.

Q. So that would tend to take the water away from that region rather rapidly when it fell?

A. I didn't observe well enough for that. These township roads, in a great many instances they will dig little ditches all along the line and run them into a stream, and the water runs off the road and into the stream. Whether that is the case there I don't know.

Q. That whole country on the westerly side, or the southerly side of the Montreal River slopes quite sharply to the Montreal River, doesn't it?

A. Well there is some flat country in there.

Q. But it is a marshy country right near the bank of the Montreal River?

A. Yes, there is some marshy country there.

Q. And that is true until you get up to near this point that is marked Astronomical Station Number Two on the Cram map: isn't that true?

[fol. 202] A. Yes, sir.

Q. And at least half of that country is cleared off on each side of the river; wouldn't you think that?

A. No, not all the way.

Q. Well, that is true from a point a mile or so from the confluence of the two rivers to the City of Hurley?

A. Oh, no

Q. You wouldn't say half of that country is cleared there?

A. No, not in there.

Q. And that is also true from the City of Hurley for some distance easterly?

A. Yes, sir, a little bit out of here. From here I don't believe it is.

Mr. Sawyer: "From here"—the reporter can't get that.

A. I don't believe it is. In fact, I am giving you this from memory merely. I have only been there two or three times. I would say from my memory now—I would not say this country up here (indicating) is one-third cleared. Mr. Rupp can give you that better than I can.

Mr. Rieser: What would you say as to the country toward the lake from Hurley?

A. From Hurley to the lake I wouldn't say ten per cent of it is cleared.

Q. Within a distance of ten miles of Hurley, would you say?

A. From a distance right outside of Hurley. A little ways out-
[fol. 203] side of Hurley you get into the brush in the clearing. You don't have to go very far.

Q. There are mines right near Hurley, are there not?

A. Yes, sir.

Q. And there — some out at Gill?

A. Yes, sir.

Q. And at Pense?

A. I don't know.

Q. And there is some development work in the vicinity of the Montreal; isn't that true?

A. Yes, sir.

Q. There are several railroad rights-of-way that cut across both valleys of those rivers?

A. Yes, sir.

Q. And artificial drainage provided as to all of those rights-of-way?

A. I didn't observe that. But I suppose there is. Generally railroads do that.

Q. And all those conditions, Mr. Burridge, would tend to change the condition at the time you made your observation from the condition existing at the time Mr. Houghton and Mr. Cram went through there, wouldn't it?

A. Change the condition?

Q. Yes.

A. Oh, yes.

Q. And could change the conditions so as to affect the stream flow, or the waterfall?

A. What do you mean?

Q. The discharge of the drainage district?

A. It would probably discharge quicker now than it would be-
[fol. 204] fore.

Q. And it is also true, is it not, that the region of the head waters of the west branch is a good deal wilder than the region immediately north of that region along the Montreal River?

A. Well, I don't know as I would say that.

Q. Were you in that region?

A. I was in some of it. Mr. Rupp did the most of the work up here on the east side (indicating). I have been up there. I have driven up there; but as to walking over the country, I wouldn't want to answer yes or no on that question, because comparing the two I don't know.

Q. You said the east side; do you mean the east side or west side?

A. The west side. The east side I have been on, but the west side there I only drove through. Where we could get through we crossed and Mr. Rupp showed me the country he went through.

But his testimony would be better than mine, as to that, because I merely went through there. I couldn't give you a comparison.

Q. Were you up to Pine Lake on the Montreal River?

A. No, I wasn't up to Pine Lake; I went up here to this monument (indicating).

Q. To the Astronomical Station?

A. Yes, to the Astronomical Station.

Mr. Sawyer: Astronomical Station Number Two.

[fol. 205] Mr. Rieser: And from that point did you observe the country at all toward Pine Lake?

A. Well, you couldn't observe it. It is so wooded through there you couldn't see far enough to give an opinion; you couldn't see more than a quarter of a mile.

Q. And it is so thick from there on you can't hardly go through it; isn't that true?

A. Wherever I looked I would say that it is thick.

Q. Bramble undergrowth, isn't it?

A. Yes.

Q. And the stream is full of windfall and logs and rubbish?

A. I don't remember about that.

Q. At this junction also isn't it true, Mr. Burridge, at this Astronomical Station Number Two and from there on toward the lake along the Montreal River the Montreal River is more or less sluggish, isn't it?

A. It is up there, yes. Of course, we have got a dam, you remember, down in here (indicating) that backs the water up there considerable.

Q. When you say "down in here" you refer to a point near Hurley and Ironwood?

A. Yes.

Q. You have referred to the exhibit 112 and expressed your opinion that that was merely a sketch; is that right, Mr. Burridge?

A. Yes, sir.

[fol. 206] Q. And you would judge, would you not, that a large amount of the information on that sketch would necessarily have to be obtained from Indians, or guides?

A. I would think so.

Q. In fact, engineers going into a region of that kind would usually take a guide along, at least one?

A. Well, yes; they would probably have a lot of them, for the time they spent going from here (indicating) to there (indicating) they couldn't get that information unless they did use a guide.

Q. The fact that these various streams are named, and some of the lakes are named when they were not reached, apparently, by the surveying parties would indicate that that information was obtained from guides, or Indians?

A. Indians, I would say.

Q. Well, the fact that they are English names would probably indicate that they were obtained from guides?

A. These guides came along with them. Of course, I have no way of telling who those men were.

Q. And you have stated also that you doubt very much that the west branch was ever explored?

A. Yes, I do. I mean by that, for any considerable distance. They might have gone there and looked up it for a quarter of a mile. But I mean for going out and running it out, what we call running out a stream, I don't believe it ever was.

[fol. 207] Q. At the confluence of the two streams the west branch comes in in a series of little breaks, doesn't it, little branches?

A. There are little islands in there.

Q. So it feeds in, not as one stream there, but a series of little streams, two or three little ones?

A. No. The natural channel, as you come up, the thing here shows that you naturally figure going on the west branch.

Q. I ask you to state whether or not it isn't true that there are two or three litle islands right at the junction?

A. Yes, there are that many.

Q. And those islands are formed, Mr. Burridge, by the west branch of the Montreal River, are they not?

A. Those islands are formed by the west branch?

Q. West branch of the Montreal River; that is, they start up in the west branch of the Montreal River?

A. Oh, no, no, no. Here's your channel coming right down here (indicating).

Mr. Sawyer: Referring to sketch already introduced.

The Witness: Here's the water running down through here (indicating).

Mr. Sawyer: Excuse me a moment. When you say "here" will you please say which side of the stream going down, so the reporter gets it.

[fol. 208] The Witness: Following the channel of the west branch down stream it will be seen that the waters of the west branch seem to split at its entrance into the main channel and goes around these islands in two different directions. This was determined and was easily traced at this time because the west branch water is red and the other water being black.

Mr. Rieser: And you would say that the water following the westerly shore of the west branch, that there the main part of its discharge took place?

A. That seemed to be the most of it.

Q. And you say that these islands were out beyond the place where the two rivers joined?

A. Well, you can see for yourself. I don't quite get you—out beyond. Here's one, two, three (indicating). The biggest ones are out beyond. These here (indicating), you see, are more or less in the entrance of the east channel, these two especially (indicating).

Q. That is upon the map you referred to in your testimony this morning?

A. Yes, sir.

Q. And those last three that you have identified are towards the northerly side, northeasterly side of the junction of the two rivers?

A. Yes, sir.

Q. The islands that you have just referred to, one of them at least is quite a considerable island?

A. Yes.

[fol. 209] Q. Has some trees on it?

A. Yes, sir.

Q. Has some stumps on it?

A. I don't remember about that.

Q. Did you look over any of those stumps to see how old they were?

A. I did not.

Q. Did you find any obstruction in the west branch of the Montreal River when you went through there?

A. There was nothing in there practically at all.

Q. How far up did you make an examination?

A. Oh, I'll say a half mile or more.

Q. Did you go as far as the railroad bridge?

A. Yes.

Q. And you say there was no obstruction in there?

A. An occasional log.

Q. Isn't there a log jam within three hundred feet beyond the railroad bridge?

A. I don't remember.

Q. Towards the confluence of the two rivers?

A. I don't remember.

Q. You don't remember?

A. I don't remember.

Q. And didn't you find some considerable obstruction there?

A. Right here at the entrance of the west branch (indicating)?

Q. No; between the confluence of the two rivers and the railroad bridge.

A. No; all we found in there when we went up there was just a [fol. 210] few logs here and there.

Q. And there is also a little stream that joins the west branch of the Montreal River just about at the confluence with the Montreal River, isn't there?

A. I don't remember.

Q. Do you know where with reference to the confluence of the stream just referred to you took your observations when you were making your gu*a*gings of stream flow?

A. Whether above or below it?

Q. Yes.

A. No, sir. I don't.

Q. About how far from the confluence of these two rivers did you make your observations?

A. How far up from the mouth of the channel?

Q. Yes. That is, where you put your gu*a*ging apparatus?

A. This gauging that we did here (indicating), the one I am giving you was made one mile north of Gile.

Q. And the gauging of the Montreal River where?

A. Was made—we made that, as I remember, above the dam.

Q. That is the dam east of the City of Hurley?

A. Of Ironwood.

Mr. Sawyer: Northeast.

Mr. Rieser: Well, that doesn't make much difference then. Towards Hurley, anyway, from the confluence of the two streams?

A. Yes, as I remember it. The first one I know I am right; the last one, I may be a little hazy on that.

[fol. 211] Q. So that your stream flow, Mr. Burridge, was taken at a point several miles from the confluence of the two streams?

A. Yes, sir.

Q. And in determining the stream flow in relation to the drainage area you could only then compare the drainage area by the river from those two points?

A. Absolutely. Our reason for that—I might as well give you that right here; you will ask me that anyway—was on account of the east branch being so crooked, and full of drift wood we could not find any place long enough to get a chance to take our floats; there wasn't any place up there. We took the nearest place to the mouth we could get where we could get any information at all that we thought would be reliable.

Q. Did you then figure the per second feet of stream flow per square mile in relation to the distance above these points, or as to the entire drainage area of the two rivers?

A. We figured the amount of flow for the point taken, at the point taken.

Q. And in arriving at your comparison of discharge per square mile of drainage area did you take into consideration the drainage area by the stream from that point, or did you take in the entire drainage area?

A. Just by the stream from that point.

[fol. 212] Q. Then how much was the drainage area that you took into consideration in making your computation for the two streams?

A. It would be just the amount above those two points; how many square miles I don't know.

Q. You don't know?

A. No.

Q. Then your figures on Exhibit 170 are not based upon a drainage area of 112.28 square miles for the east branch and 96.60 square miles for the west branch?

A. No, sir. To do that they would have to be taken clear down here at the mouth of the two streams (indicating); and we could not do that, couldn't get that.

Q. With accurate instruments, however, that could have been done, with modern instruments?

A. Yes, I think if we had had a current meter there we could

have found a cross section. With a current meter you don't have to get a long stretch. If you had a current meter you could do it.

Q. And guagings taken at such a point with such an instrument would then more accurately reflect the actual per second feet of discharge per square mile of the entire drainage area, wouldn't it?

A. Absolutely, yes, sir. I wish to say we tried to do that. We followed from the mouth up here and tried to get two places that would be practically the same, and could not do it.

[fol. 213] Q. Now, did you take these measurements or gaugings, did you say above the dam?

A. Only one. We took one up there; whether we used it or not, I told you I was a little bit hazy on that. We took six or seven different readings around there, and we tried to get the conditions the same. That one above the dam I don't know whether we used or not.

Q. Have you got the records taken?

A. Mr. Rupp can tell you on that one there; he has got it.

Q. Did you yourself keep any memorandum or records of that?

A. I don't know. I will say I have the one here on my book that I gave you here. I have got the one here for the west branch.

Q. But not for the Montreal River?

A. No sir, not for the Montreal. Mr. Rupp has that, I think.

Q. Now, you testified this morning that if you were coming up the Montreal River you would take the west branch as the main channel of the Montreal River, I believe?

A. Yes, sir.

Q. Would that opinion be influenced any if the guide were to tell you that the other branch of the Montreal River was the Montreal river?

A. If he told me the other branch was—It would depend on what I was looking for.

Q. If you were told to find the main channel of the Montreal River, and you had a guide with you would you follow the statement [fol. 214] of the guide, or would you take your own judgment and follow the other stream, regardless of what the name might be?

A. Of course, I think if I was doing it myself now, or even then, I would probably—I know I would take and follow the main stream. But if I was in a hurry to get some place I would take the guide's word for it.

Q. Regardless of whether or not that other stream was called the Montreal River and the stream that you were intending to follow was the Middle River, or the Hemlock Creek?

A. If I was looking for the Montreal River I would probably take the guide's word for it and go along with him.

Q. Now, when was the Boundary Commission making the examination of these two rivers, do you recall?

A. I should judge in the fall of 1920, as I remember.

Q. Can you state about the date, from any records you have?

A. No, I haven't any record. That was the first meeting we had up at Ironwood.

Q. Was that before or after you made your investigation?

A. Before.

Q. The same year?

A. The same year.

Q. In the same month, probably?

A. No; I think it must have been at least a month or six weeks before.

Q. So that it would be probably in September?

[fol. 215] A. September or October, the last of September or the first of October. It was a very warm day; it could not have been very late in the fall. I remember we drove to Lac Vieux Desert in an open car.

Q. I believe you also testified, Mr. Burridge, that neither the Houghton map or the Cram map is absolutely accurate?

A. No, they are not.

Q. But they substantially show the general courses of the streams and the principal bends and courses of the streams, do they not?

A. They show the general direction of them, yes.

Q. And they are so accurate at least that, with the aid of these maps and your information of the country you can specifically identify Hemlock Creek as being the same as the west branch of the Montreal River?

Mr. Sawyer: Wait a minute. You mean on the Douglas Houghton sketch?

Mr. Rieser: I refer to the Cram sketch, Exhibit 112, and Douglas Houghton map in Wisconsin Exhibit number 7.

A. I can determine that because they practically come into the Montreal River at the place where they should come.

Mr. Rieser: Where they should come. That is all at this time.

Redirect examination by Mr. Sawyer:

[fol. 216] Q. When you say where they come into the Montreal you mean where the east and west branches join into the Montreal below, do you?

Mr. Rieser: I object to that for the reason it is leading and suggestive.

Mr. Sawyer: Well, what do you mean when you refer to the west branch called Hemlock Creek on the Houghton sketch referred to coming into the Montreal, what do you mean?

A. I mean that it is practically the same Creek we have shown on here by another name, whatever it was. It is on the other map you showed me.

Q. In your answers to the recent questions of Mr. Rieser you referred to a stream from the west coming in to the Montreal; what stream do you refer to as the Montreal?

A. Well, that is the west branch of the Montreal.

Q. I call your attention now to the Douglas Houghton sketch on page 299 of his Journal of 1841, and I call your attention to Hemlock Creek appearing to come into the main stream in

that sketch from the southwest. What stream as it exists in the geography of the country do you refer to when you say that Hemlock Creek comes into the Montreal?

A. Hemlock Creek as they called it is practically the same—on this map is practically the same as what we call the west branch.

[fol. 217] Q. West branch of the Montreal?

A. Yes.

Q. And when you say it comes into the Montreal you mean where it comes to the junction of the east and west branches?

Mr. Rieser: I object to that for the reason it is leading and suggestive, and ask that be stricken out.

Mr. Sawyer: What do you refer to when you say that that comes in to the Montreal? What do you mean?

A. What I mean is that I interpret on this Douglas Houghton map that what he calls Hemlock Creek is the west branch of the Montreal River; that is what I mean.

Q. And what does it come into?

A. Comes into the Montreal River here (indicating), comes in as the west branch of the Montreal River into the main stream here (indicating); that is where it joins the east branch.

Q. That is where it joins the east branch?

A. Yes.

Q. And the two constitute one stream below?

A. Yes, sir.

Mr. Rieser: I object to that for the reason it — leading and suggestive.

The Commissioner: Objection sustained.

To which ruling of the Commissioner the plaintiff, by its counsel, then and there duly excepted, and still excepts.

[fol. 218] Mr. Sawyer: What do you refer to as the main Montreal when you say it comes into the Montreal.

Mr. Rieser: I object to that for the reason it assumes the witness testified to something that is not in the record.

Mr. Sawyer: I will change it by saying what do you refer to when you say it comes into the Montreal?

A. The main branch of the Montreal, which leads from Lake Superior up to the forks.

Q. Do you mean branch, or——

Mr. Rieser: Just a moment. I object to that as leading and suggestive.

The Commissioner: Objection sustained

To which ruling of the Commissioner the plaintiff, by its counsel, then and there duly excepted, and still excepts.

Mr. Sawyer: What do you mean by the main branch from the lake up to the forks?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, and calling for a conclusion of the witness, and relates to a condition entirely different from that embraced within the issues of this case.

Mr. Sawyer: Now, you may answer.

A. I mean the Montreal River.

Q. You were examined to some extent in regard to the cleared areas along the east branch of the Montreal, such as farms, and so [fol. 219] forth. I want to ask you if the rainfall of the region covered by these farms does not eventually get into the stream and causes a part of its flow just the same as though it had not been cleared?

Mr. Rieser: Just a moment. I would like to ask the witness a few questions?

Q. Have you gone over in here and made a careful topographic study of these farms and the conditions upon all of them with reference to drainage, and so forth, Mr. Burridge?

A. No, sir.

Mr. Rieser: Then I object to it, as the witness is not qualified.

Mr. Sawyer: I will change the question.

Q. If these farms are within the drainage area of the east branch of the Montreal, as would be indicated by the former examination and answers, what can you say as to whether the water-fall within those areas would naturally get into the east branch of the Montreal, the same as though they had not been cleared.

Mr. Rieser: Objected to for the reason it assumes something not in evidence in this case, and that is that the conditions are the same.

Mr. Sawyer: Can you answer?

A. Why, the run-off on cleared land goes much faster than it does on wooded territory.

Q. But it comes to the same channel, doesn't it, eventually?

A. Absolutely.

[fol. 220] Q. Now, speaking of the measurements that you made of the rivers at one point on the east and west branch, those measurements were made of the actual flow of the water at those points at that time, were they not?

A. Yes, sir.

Mr. Rieser: I object to that for the reason it is leading and suggestive, and I ask that the answer be stricken out.

The Commissioner: The objection and motion overruled.

To which ruling of the Commissioner the defendant, by its counsel, then and there duly excepted, and still excepts.

Mr. Sawyer: In making the measurements you did not take any note of the drainage area, did you?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, and it is leading and suggestive.

Mr. Sawyer: I will change it.

Q. In making the measurements did you take any special note of the drainage area?

A. No.

Q. Isn't it a fact that the drainage area is one of the elements in the creation of the flow of the stream?

Mr. Rieser: I object to that for the reason it is leading and suggestive.

The Commissioner: Objection sustained.

[fol. 221] Mr. Sawyer: I guess that goes without saying. That is all.

Recross-examination by Mr. Rieser:

Q. Mr. Burridge, has your work been of a nature in which you have gone into the question of determining the size and extent of streams very extensively?

A. I run out drainage areas on about three hundred miles of railroad in my time.

Q. And the usual practice in running out drainage areas is to compare the size of your stream in respect to the drainage area affected by the stream; isn't that true?

A. No; we figure—Not necessarily.

Q. It is the common practice in comparing streams to take into consideration the drainage area?

A. Absolutely, yes, sir.

Mr. Rieser: That is all.

Mr. Sawyer: In considering the flow of the stream are there any other elements than the drainage area that might affect the low of it?

A. You mean, Mr. Sawyer, the average yearly flow, or are you figuring on the flood-flow?

Q. Are there any other elements entering into the size of the channel of the stream than the drainage area?

A. You have got to figure the springs, and things of that kind, in the way of flowing wells.

Mr. Sawyer: That is all.

[fol. 222] Mr. Rieser: It is your opinion, isn't it, Mr. Burridge, that these two drainage areas are comparable?

A. The information that I have got on the east branch here doesn't make me competent to judge that, comparing it with the west.

Mr. Rieser: That is all.

GEORGE H. RUPP, having been heretofore duly sworn and having testified on behalf of plaintiff in direct examination, was recalled for cross-examination and testified further on cross-examination as follows:

Cross-examination by Mr. Rieser:

Mr. Rupp, your experience up into the Arctic wilds, I assume, was after your investigation you made of the boundary line; isn't that true?

A. Yes, I belive so; or was it before? It was before.

Mr. Sawyer: Just before.

Mr. Rieser: Now, do you know, Mr. Rupp?

A. Well, I'll have to figure dates. It was before, because I remember tel-ing Mr. Sawyer and Mr. Burridge about the trip. It was quite an unusual one.

Q. That was in the nature of an expedition to look after iron ore, and coal deposits, or, at least, mineral deposits?

A. Yes, sir.

Q. Your experience in the engineering field, Mr. Rupp, has been almost entirely along lines of that kind?

[fol. 223] A. Yes, with the exception of a couple of years when I first got out of school we built county roads.

Q. You were with the engineering department of some Highway Commission, or something of that sort?

A. Yes, sir. We were working for the Gogebic County Road Commission.

Q. Is that in the Ironwood district?

A. Yes.

Q. And you say you were raised in the vicinity of Ironwood?

A. Yes.

Q. Now, Spring Creek that has been referred to here in the testimony rises somewhat northwesterly of Ironwood, does it?

A. Northeasterly.

Q. Northeastly. And you say it is out of the gravel near the source of this creek that the Ironwood water supply comes from now?

A. No, the head waters of——

Mr. Sawyer: Referring to plaintiff's Exhibit 173.

A. The head waters, the real head waters of so-called Spring Creek start now, as they always did, in this swamp (indicating); but they are largely increased by water that is pumped from the Davis & Geneva Mines, or the Oliver Mining Company.

Q. Now, where is the water supply of the City of Ironwood obtained, where does it come from?

A. It is directly north of Ironwood. It is about in the center of Range forty-seven (indicating).

[fol. 224] Q. That is in the drainage area of Spring Creek, isn't it?

A. Yes, sir.

Q. And that is from a gravel, run from a gravel bed there, isn't it?

A. The whole country there is covered with glacial drift and gravel; practically the entire district is covered, with the exception of these ranges (indicating) which are north of the city.

Q. And the gravel is of considerable size there?

A. Well, it varies considerable. Understand, on account of these trap ranges being level they are far more resistant to the action of the elements, and to the glaciers; so we have numerous valleys, if you please, with the valley filled with glacial deposits.

Q. And, of course, taking the water away quickly from underneath them would tend to affect the drainage of this Spring Creek, wouldn't it?

A. It would now, yes.

Q. Do you know what the pumpage is of the City of Ironwood is every day?

A. I don't know.

Q. Well, you know it is considerably in excess of—It is nearly two million cubic feet per day, isn't it?

A. I couldn't say as to that.

Q. Or gallons, probably?

A. I couldn't say. But the City of Ironwood is about sixteen thousand population.

[fol. 225] Q. And you say that the pumpage from some mine north of Ironwood comes into Spring Creek?

A. Yes; it is the Davis & Geneva mines; between Ironwood and Bessemer they are located.

Q. And they are located within the drainage area?

A. Yes; or else they would be right on the edge.

Q. So it would probably be hard to tell just where that water went?

A. That country, ridges run approximately east and west, so that your actual drainage area doesn't come over any big hill or ridge.

Q. And you say that they pump continuously, these mines do?

A. Yes; they have to.

Q. But in the summer time you say Spring Creek at times dries up entirely?

A. It does since Ironwood started to pump water. That plant was only put in there very recently.

Q. Prior to that time it was a year-round creek, wasn't it?

A. I could not say as to that, because I had not visited it.

Q. Do you know what the conditions were there?

A. No, I do not.

Q. You do know, however, that it has affected in part at least the flow of that Spring Creek?

A. You mean the mine water has?

Q. Yes.

A. Yes, of course.

Q. And also the pumping of the City of Ironwood?

[fol. 226] A. The pumping of the City of Ironwood has practically dried it up now.

Q. The year-round?

A. No, not the year-round. In flood stages, in the spring par-

ticularly, and when the ice melts, and sometimes in the fall there is a stream running down through there.

Q. And where does the City of Hurley get its water supply, if you know?

A. At the present time, or at the time we made these measurements?

Q. At the time you made these measurements?

A. At the time we made these measurements I don't believe that Ironwood City plant was in operation. That was in 1920. Do you remember when O'Neill went in there? At that time they were pumping water from a point up above the City of Ironwood, taking it from the east branch of the Montreal.

Q. The City of Hurley was?

A. The City of Ironwood; and the City of Hurley also.

Q. And was that above or below the point where you took your gaugings?

A. We took our gauging above it?

Q. How far above it?

A. Just a short distance above it.

Q. The gaugings from which you determined your report were taken, you say, above that point?

A. Yes.

[fol. 227] Q. Now there is also a discharge from some mines into the west branch of the Montreal River, from some mines near Gile?

A. Yes, some smaller mine, I beileve the Adair Mine, belonging to Ogleby, Winton & Company.

Q. Do you know the flow of that?

A. It is so small that it is insignificant in figuring the flow, because it would not run over, I should judge, about two hundred gallons per minute.

Q. Do you know whether or not it was the same in 1919 and 1920?

A. Yes, practically the same. These mines are all deep mines and they do not vary much.

Q. You were testifying this morning with respect to the region around Island Lake; that you said was a wild condition?

A. Yes.

Q. No cut-over lands there?

A. Yes, there was cut-over lands there.

Q. In fact, practically all of that country has been cut over, hasn't it?

A. The pine practically has been removed from practically the whole upper peninsula.

Q. And also around Pine Lake?

A. Yes, sir.

Q. So practically all that is in that region is second growth?

A. No, sir.

Q. What is left in there?

A. The original growth of Hemlock and oak; nothing has been removed but the pine.

[fol. 228] Q. Which was the greater in amount, the pine in there or the hemlock?

A. The hardwoods were very much greater in there. You will usually find pine in sandy country.

Q. That is immediately around Island Lake you refer to?

A. Yes. In fact, this whole area I refer to in here was not pine land.

Q. When you say "in here," you mean within the drainage area of the west branch?

A. In the drainage area of both branches.

Q. It is true, however, that there is a good deal more clearing within the drainage area of the Montreal River than there was within the drainage area of the west branch?

Mr. Sawyer: I object to the question as assuming that one branch is the Montreal.

The Commissioner: Do you want a ruling?

Mr. Sawyer: I do.

The Commissioner: There has been a good deal of such assumption on both sides, in the form of the questions, at least. Objection is overruled.

To which ruling of the Commissioner the plaintiff, by its counsel, then and there duly excepted, and still excepts.

The Witness: Will you just read that question again, please, Mr. Reporter?

[fol. 229] Mr. Sawyer: I will then ask that the question be made more definite by stating which stream he refers to as the Montreal River. There certainly can't be any objection to that.

The Commissioner: That might be proper.

Mr. Rieser: I think the witness understands the question: if that is true I think he can answer it.

Mr. Sawyer: Do you understand what the question means, Mr. Witness?

A. You have got quite aways way from it. Will you please read it again?

Mr. Rieser: I will withdraw that question, and ask you this question, Mr. Witness: that will probably make it more definite and certain. It is a fact, isn't it, that the drainage area of the Montreal River as marked upon Exhibit 173 is more cleared, and there is more clearings in it, and more development and improvement in it than there is within the drainage area of the river marked upon Exhibit 173 as the west branch of the Montreal River?

A. Yes, sir.

Q. So that the conditions on the west branch of the Montreal River are more nearly the conditions as were found prior to civilization of that country than they are on the so-called Montreal River as shown on Exhibit 173?

A. Well, you are assuming a great deal there, for the reason it is [fol. 230] only in the upper portions of both streams that we still have original timber.

Q. But it is also true, isn't it, that the surface drainage in both

drainage areas, the direct surface drainage to these rivers, there is more of that in the regions of the drainage areas nearest Lake Superior, of both streams?

A. I don't quite get your meaning.

Q. It is true that the feeding streams of the Montreal River are mostly above the changed or cleared area of the Montreal River drainage basin; isn't that true?

Mr. Sawyer: I object to that as being indefinite, because on certain maps one stream is marked Montreal, and on others they are called west branch and east branch.

The Commissioner: I believe you could make the question more specific.

Mr. Rieser: We will add to that that we refer to Exhibit 173, on which it is marked Montreal River. I should say plaintiff's exhibit.

Mr. Sawyer: I would like to have the question read again, so that I may understand it.

(Last question read as follows: "It is true that the feeding streams of the Montreal River are mostly above the changed or cleared area of the Montreal River drainage basin; isn't that true?")

[fol. 231] A. The feeding streams come into both branches of the Montreal practically the whole length, as you will observe by the map.

Mr. Rieser: The principal feeding streams, however, come into both streams beyond the principal cleared area, or the altered area?

Mr. Sawyer: I object to that as being indefinite. Beyond means nothing in that connection.

The Commissioner: Objection overruled.

To which ruling of the Commissioner the plaintiff, by its counsel, then and there duly excepted, and still excepts.

A. No. The principal feeding streams come in all over, as can be seen by the map.

Mr. Rieser: Well, the improved area of the Montreal River shown on plaintiff's Exhibit 173 is principally around Hurley, and from there on to the confluence of the Montreal with the west branch?

A. Yes, sir.

Q. And in that area there are very few feeding streams?

A. Not many, no.

Q. And for that reason the clearing of that region would tend to run off the water a good deal more quickly than if the country was in its original state?

A. Certainly.

Q. Now, you have referred to your *guaging* stations; where were [fol. 232] they located on the two streams?

A. On the west branch of the Montreal we had a station just above a railroad bridge. It was either here (indicating), or here (indicating). My recollection is that it was just immediately north of the Chicago & Northwestern Railroad.

Q. That would be in section what?

A. Sections 20 and 21. I said north; it is south, I mean. If I may correct myself, just south of the railroad track. It is section 21; it isn't in section 20.

Q. And what township and range?

A. That would be township 46 north, range 2 east, according to the Wisconsin survey.

Q. And where did you make your gu*a*gings on the Montreal River shown on Exhibit 173?

A. Just above the City of Ironwood pumping plant. Now, just where that is on the map I am unable to state.

Q. Now, do you know what the drainage area was of the two rivers above those points?

A. Understand, if I may explain——

Q. I would like to have you answer that, whether you knew that, and I will get into that other phase of it in a few minutes.

A. You want to know what the drainage areas are above that point?

Q. Yes.

A. No; I did not figure that. I did not have that at the time. I [fol. 233] might explain in regard to these measurements that we only took two, and we took them on the same day, for the reason that we felt that it was not our function to make a brief for the State of Michigan, or for the State of Wisconsin; and before we started any work at all we wanted an approximation at least of the water-flow in both channels, to know whether it would be worth while to continue the investigation at all. There was in existence already a very complete water-flow record, made I believe by the Wisconsin Railroad Commission; and we took no further measurements. These two float measurements, of course, are merely approximate; but they do show the relative size of the two streams at that particular date.

Q. The relative run-off of flow on that particular date?

A. The relative flow of the two streams on that particular date.

Q. In order to make thoroughly accurate and fair comparison of the two streams on that date, in the light of their respective drainage areas, it would be necessary to take the run-off at that point, determine the discharge per square foot——

A. Square mile.

Q. —square mile I should say, then take the total drainage area at the confluence of the two streams and multiply it by that figure. [fol. 234] wouldn't it?

A. Ordinarily. As far as we have assumed, we were merely interested in getting the amount of water that was flowing at that time. I am not familiar enough with drainage areas to state just what the usual procedure is, because I have not done any work along that line.

Q. But in order to compare these streams and determine the amount of run-off the fair method of determining that would be to take the run-off of the two streams at the confluence.

A. Yes.

Q Your estimates were made about how far from the confluence, both of them? Can you give us your best judgment on that?

A. Oh, between six and seven miles.

Q. On each stream?

A. On each stream.

Q. What can you say as to the drainage areas of the two streams between the points you took the measurements and the confluence?

A. We made no computations on that point at all.

Q. How did you determine the drainage areas of the two streams, Mr. Rupp?

A. We platted the official government township plats, which were made, as you know, from the government surveys, and compiled them all into this one map.

Q. This Exhibit 173?

A. Yes. Then we merely took the apparent high ridges between the stream areas that were flowing in various directions. We did not make any contour survey of the entire district, because that is too [fol. 235] long a job for the time that we had. That was not made from a contour map.

Q. And you did not take any reconnoissance of the ground?

A. No extensive reconnoissance, no.

Q. And what you did practically was to average the distance between two closely approaching streams having different drainage and divide your run-off water between them; isn't that true?

A. Yes.

Q. And assumed that was the point of division?

A. And assumed that was the point of division. These government surveys are not entirely accurate. Wisconsin's in particular is very bad.

Q. And there might be a considerable error in the actual drainage areas of both streams by determining it in that method?

A. I should not say there would be any great relative discrepancy. That is, both drainage areas are figured by the same method. At that point this doesn't show the smaller streams. So if you make a contour they would probably have compared pretty well on both sides. These figures ought to be fairly accurate.

Q. I notice, however, in arriving at your drainage area of the Montreal River on Exhibit 173 part of your area cuts right through some streams shown on this map; how do you account for that? [fol. 236] A. For the reason there is a small drainage stream running into Pine Lake.

Q. That is true, but why do you exclude part of that area from which this stream runs?

A. For the reason that there is another stream starting in section 6—that would be township 43 and range 3 east, flowing south that excludes that country from any Montreal branch drainage area.

Q. But in that region that would be purely and solely and entirely a guess unless actual reconnoissance was made?

A. Well, that would be almost impossible to determine from a reconnoissance, for the reason that is all swamp and practically all the same level. Anybody going through there would average it. He certainly wouldn't put it in here (indicating) below section 6 in township 43 and range 3 east, into any Montreal river drainage, because there is a creek running south here (indicating).

Q. It is also true, isn't it, that in these early government surveys a large number of small streams were entirely disregarded?

A. Yes.

Q. And they might make considerable difference in determining that drainage area if you were making an actual reconnoissance?

A. I should not say considerable. The difference would be small. Government surveys are fairly accurate.

[fol. 237] Q. Now, you have testified with reference to Exhibit Number 104, that your conclusion was that a large amount of the information contained on that map was obtained from guides and Indians, and so forth.

A It must have been.

Q. Have you also examined the original government survey map, the township survey map?

A. Yes, sir.

Q. Referring now to Wisconsin Exhibit 109, sheet one, I will ask you whether or not the trail indicated upon that map is still visible in certain parts of that region?

A. Not to my knowledge.

Q. Did you go over here (indicating) on the northerly side of the Montreal River to determine whether or not that trail to the mouth is visible?

A. No. We had no record of the trail, and made no effort to find it. I doubt if it is in existence at all.

Q. And do you know whether or not that trail, or can you from looking at Exhibit 112 and comparing it with the trail shown on the township map tell whether it substantially follows the course shown on the township map?

A. It does substantially, as far as this Exhibit 109 shows.

Q. But you say you found no evidences of it, or any indications of it anywhere?

A. No; and I have never heard of that trail.

Q. How far back does your familiarity with this country extend, Mr. Rupp?

[fol. 238] A. My father went up in 1885, either 1884 or 1885; and I worked in the woods with him and traveled with him since I was a youngster.

Q. In this country south of the Montreal River?

A. Yes, all over that Gogebic country practically.

Q. This is, however, on the other side *side* of the Montreal River (indicating)?

A. Yes, up in that county, and in Iron County, Wisconsin.

Q. And you never heard of that trail?

A. I have never heard of that old trail. There was an old trail starting from the mouth of the Montreal River, where the early explorers used to come to Ironwood and Bessemer.

Q. Early explorers or early settlers?

A. The early settlers, call them, were looking for iron in what is now known as the Gogebic iron district.

Q. Are you familiar with that trail?

A. No, I have no knowledge of it.

Q. You can't say whether that followed the trail now shown on the Cram map, or Exhibit 112?

A. No. That country is all grown-up with second-growth, and it would have to be used pretty regular to keep the trail still visible.

Q. Now, both of the rivers at the time of your investigation were quite low, were they not, Mr. Rupp?

A. They were.

Q. Probably abnormally low for that time of the year?

[fol. 239] A. Oh, I wouldn't say abnormally low.

Q. Have you made any study of the average rainfall in that region for any series of years prior to that time?

A. I have not.

Q. Make any comparison of the relative size of the two rivers?

A. I have not.

Q. Did you make any study of the rainfall in the region of the two streams immediately prior to your investigation?

A. We did not.

Q. Or keep any record of the rainfall during your investigation?

A. No, sir. We were both busy, and in order to compile any figures of that sort one of us would have had to have been on the job every day.

Q. It is true that in that region, especially at that time of the year, you have a good many local showers?

A. Yes, sir.

Q. Now, you referred to some drift-wood in the Montreal River as shown on Exhibit 173 somewhat above the confluence of the two streams?

A. That is the east branch you are referring to, what we have been calling the east branch?

Q. Yes; and what is marked as Montreal River on Exhibit 173, is that right?

A. That is correct.

[fol. 240] Q. About how far above the confluence of the streams was it?

A. Right at the confluence, and from there on up. It isn't a hundred feet from there.

Q. What did you find in the west branch?

A. We found that creek practically clear.

Q. All the way up?

A. Oh, an occasional log. Understand, these streams are small, as we understand rivers, twenty-five, thirty-five feet wide. You are liable to have log jams in there anywhere.

Q. Isn't it a fact there is a very old log jam right in there immediately below the railroad bridge and between the railroad bridge and the confluence of the west branch with the Montreal?

A. I don't remember.

Q. Well, did you make a very thorough reconnoissance of that region?

A. Yes; we followed all the way up that river.

Q. Right along with the river, or how?

A. Well, usually along the banks. We didn't wade the river any more than we had to.

Q. Right in that region above the confluence there for some little distance there is quite a swamp in there, isn't there?

A. On the west branch?

Q. Yes.

A. That is all cleared land.

[fol. 241] Q. Cleared right down to the river?

A. No, not right down to the river; but there are farms on the west side, so naturally we followed the high banks.

Q. You followed the road then, didn't you?

A. No; we followed the bank as nearly as possible.

Q. How far was that bank you followed from the west bank of the river?

A. That would vary. We would go in around the little run-offs. I don't imagine it would be, at the maximum, over a couple of hundred feet, probably fifty feet.

Q. Do you recall there was a run-off coming into the Montreal River immediately below the confluence, or about at the confluence of the west branch and the Montreal River?

A. I do not recall that, because we did not keep any record of any of those small run-offs that come in there. We didn't think they were important.

Q. If there was such a run-off you would follow that up until you could cross it?

A. Yes.

Q. Do you recall whether or not you did not cross that run-off in a farmer's yard some quarter of a mile away from the confluence of the streams?

A. I do not recall that. I know we did considerable wading down in there; we were both pretty wet; we may have waded a little creek, if there was one coming in there. Understand, that is four [fol. 242] years ago, and whether I waded a creek on a particular day is something I can't remember.

Q. And your recollection as to whether or not there was a jam in the river wouldn't be any clearer?

A. No, unless it was a very pronounced jam.

Q. Well, would you say there was not a pronounced jam in the river?

A. I would say there was not a pronounced jam in the river at that time. My recollection is that river was clear above that point.

Q. Now, the discharge of the west branch of the river at the confluence follows the southerly bank, does it not?

A. As I remember it, it splits; it would have to follow the northerly—The southerly bank seems rather up here (indicating).

Q. Well, where does it flow?

Mr. Sawyer: When he says the southerly bank would be up here, that means toward the top of the page where your sketch is, doesn't it?

A. Yes. It would follow the westerly bank.

Mr. Rieser: Right close along the westerly bank?

A. It should.

Q. At that point of discharge there are several little islands?

A. Yes, sir.

Q. And those islands are located within the mouth of the west branch, are they not?

A. They are located below the junction of the stream.

[fol. 243] Q. All of them?

A. All of them, most all of them, as I recall.

Q. Are any of them located within the west branch of the Montreal River, any of the islands?

A. I cannot say as to that.

Q. Isn't it a fact that one of the largest islands is within the west branch of the Montreal River, and it has tree stumps in there averaging thirty inches or more in diameter?

A. I do not recall it.

Q. Isn't it true that immediately south of the confluence, and extending into the confluence of the stream there is quite a deposit of gravel and sand extending way down into the confluence?

A. There probably would be.

Q. And that as you go northerly from that point the water gradually grows deeper? Did you make any observation of that?

A. I do not recall that.

Q. Did you take any soundings in that region there?

A. No, we did not.

Q. Did you take any soundings in the region shown, or covered by the island and the water around it rather, shown on Exhibit 171?

A. No, we did not. We did not deem it important at that time.

Q. So that you cannot tell now which of these places most of the water running out of the west branch of the Montreal River goes [fol. 244] into the so-called Montreal River?

A. No; I could not testify exactly as to that.

Q. Have you any recollection on that, as to whether or not it went to the west?

A. No; I would not state definitely. There are several splits there, and unless I had occasion to look at it very thoroughly I would not recall that.

Q. From the fact that you have arrows along that westerly branch of the confluence there would that indicate that there was at least considerable water flowing through there?

A. Yes, at that time.

Q. And do you recall whether there were any runs indicating that water ran into the Montreal River west of that point?

A. No, I do not recall that.

Q. If there had been would your map show it?

A. Yes; if there were any runs we would probably have them in there.

Q. So that it is your judgment now that the map, Exhibit 171, and the branch at the confluence furtherest west marks the flow of the water during all stages of the year?

A. I would not say that.

Q. You would not say that?

A. Because that is four years ago. I could not state that definitely.

Q. Did you take any notes as to the situation or condition there?

A. No, we did not, except for the fact that we could designate [fol. 245] which water came from the different streams or branches on account of the fact that the west branch water was colored red from the iron ore in the water.

Q. So there would be at least enough discharge into that river from the mines to discolor it down about seven miles from the place where the water flows in?

A. Oh, yes; it will discolor it for a much greater distance than that, especially if you have a rapid flow of the stream. In the east branch, the water that comes from the Davis and Geneva mines and also the water from the Oliver Mining Company, which is pumped in below the Ironwood pumping plant, runs through a very sluggish stream, and will clarify itself in that distance. But that west branch is more rapid and in a straighter line.

Q. And for that reason it was quite red when it got down to the confluence of the two streams?

A. In the west branch there it was.

Q. And did you make any continued observations at that point with respect to that condition?

A. No, we did not.

Q. You were only there one time?

A. That is all.

Q. Was that the day on which the Commission was present with you?

A. I will correct myself there. We were there two or three occasions, I believe, but only one day that we attempted to make any [fol. 246] sketch.

Q. Or make any detail observations?

A. That is all.

Q. There were several sand-bars, were there not, that are now indicated as islands on Exhibit 171?

A. There probably were.

Q. On which there were no trees growing?

A. Probably so. You see, you are asking me all this about something that I visited one or two times about four years ago.

Q. When you made it you figured you would be testifying in this case, didn't you, Mr. Rupp?

A. No; I didn't figure that was an important point at all in order to look it up as to where the two streams come together.

Q. Why did you make your maps at that point if you didn't consider it important?

A. Merely to show the fact that the east branch comes in at an angle and the west branch heads fairly straight, so that a man coming up that stream if he were going in a straight line would probably hold that west branch.

Q. Unless he was guided by someone along another stream?

A. Unless he wanted to get eastward as far as he could get.

Q. Or some guide, or some other information directed him up this other stream?

A. Yes.

Q. And when you expressed your opinion this morning that [fol. 247] you would follow the west branch as the main channel would you say that you would do that in spite of the fact a guide might say to you that the east branch was the Montreal River, when you were looking for the Montreal River?

A. I would certainly take it into consideration. If you came to a meeting of two streams and you had been following the main stream naturally you would look up the larger stream of the two.

Q. Well, that was indicated by the fact that Mr. Houghton made notes of it, and the width of the stream?

A. Yes.

Q. And the fact that there are sand-bars at the confluence of the two streams would rather indicate that there has been a change going on, and quite a recent change in the vicinity of this confluence?

A. Not necessarily a recent change; probably a continual change. That is, if you have a sand-bar naturally the sand-bar shifts at every flood-water.

Q. And you would expect such a condition to happen where you found the conditions existing at the confluence of these two streams?

A. Yes; sand-bars will shift anywhere.

Q. And during the course of eighty years, or from 1840 down to the time you made your observation they might change quite frequently?

A. Yes, indeed.

[fol. 248] Q. So that what the actual condition was at that point in 1840 or '41 no one now can tell?

A. No, not with reference to sand-bars.

Q. Or little gravel islands, and so forth?

A. Yes.

Q. Now, which of these streams, Mr. Rupp, would you say would be the easiest to paddle a canoe on right in the vicinity of the confluence?

A. From its present condition you would have to portage there.

Q. That is, above the confluence of the east branch?

A. Yes; you would have to portage for quite a distance there, either the west or the east branch. You would certainly have to portage past this bunch of islands in there.

Q. You say there is no water deep enough to take a canoe through there anywhere?

A. My recollection is it is not.

Q. Isn't it a fact that over on the easterly side the water is five or six feet deep?

A. I don't know as to that.

Q. Did you take any soundings there?

A. We didn't take any soundings there.

Q. Or make any careful or detail observation there?

A. No, we did not.

Q. So that as far as you know the depth of the water from where [fol. 249] the confluence is complete to beyond the point where the water from the west branch discharges into the Montreal River you couldn't tell whether a canoe could run along that easterly side or not?

A. No.

Q. You are certain, are you not, that it could not run up along the westerly shore?

A. Well, that would depend on the stage of the water.

Q. Well, could it at the time that you were there?

A. No, I don't believe so.

Q. And that for the reason that it was too shallow?

A. Yes, of course.

Q. The water kind of just runs over a series of little sand-bars and gravel bars?

A. Now you are asking me again about some detail stuff that is too long ago for me to remember.

At this point, by consent of the Commissioner and agreement of counsel, the witness was withdrawn from the stand for the time being.

THOMAS R. HASLEY, having been heretofore duly sworn, and having testified in behalf of the plaintiff, was recalled and testified further in behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

[fol. 250] Q. Mr. Hasley, since you were on the stand yesterday have you reviewed plaintiff's Exhibit 108, referred to as second report of the Railroad Commission of Wisconsin on water powers, and have you computed the comparative discharge in second-feet, the mean comparative discharge in second-feet as shown by that exhibit?

A. I have.

Q. Which branch of the stream shows the largest mean discharge, the west or the east branch of the Montreal?

A. The west branch.

Q. And will you take this exhibit and show how much larger it was for the first season, or what was that season?

A. The season of 1919-1920.

Q. And how much larger was the west branch at that time?

A. Twenty per cent.

Q. And what was the next season?

A. The next one was 1920-1921.

Q And what was the difference?

A. I figure that a little higher, twenty-five per cent.

Q. You mean that the west branch was twenty-five per cent larger than the east?

A. Than the east, yes.

Q. That is the mean average discharge?

A. Yes.

Q. As shown by that report?
A. As shown by that report, yes.

Mr. Sawyer: That is all.

[fol. 251] Cross-examination by Mr. Rieser:

Q. Do you know whether or not that is taken on the basis of a comparison with the drainage area of each stream?
A. Well, this is deduced in some way; I didn't run that down.
Q. Well, until that time, until you know the basis of arriving at these figures of mean averages it is pretty hard, isn't it, to arrive at any comparison of the discharge of the two streams?
A. I computed the mean average from the other figures back here (indicating).
Q. But you don't know what area the mean discharge relates to, whether it relates to per square mile of drainage area, or whether it shows the discharge at a particular point on a particular day?
A. That is the quantity, that is the average quantity of water flowing in the stream irrespective of the area of the drainage.
Q. That is your conclusion?
A. Yes.
Q. There is nothing on the exhibit to show that fact, is there?
A. Yes.
Q. Where on that exhibit does it show the actual flow, that is, the actual flow, not a comparison of the flow?
A. It shows a heading here, "Daily Discharge" (indicating).
Q. So that there is no credit given, or no comparison made with [fol. 252] respect to the drainage area of each river when these figures are taken and given by you?
A. No.
Q. And you noticed also when you stated that there was a difference of twenty and twenty-five per cent for the two years that that discharge was at a point some seven miles above the confluence of the two streams; did you understand that?
A. No, I didn't note particularly where the flow was taken.
Q. Then you don't know just where this difference in these streams comes in, do you?

Mr. Sawyer: Just one moment. If the Court please, I have asked this witness to make this computation from that exhibit.
Mr. Rieser: I want to know how much he knows about that exhibit.
Mr. Sawyer: So that is not proper cross-examination.
The Commissioner: Objection overruled.
To which ruling of the Commissioner the plaintiff, by its counsel, then and there duly excepted, and still excepts.

A. I have no data whatever except this book which is in my hand, which was handed to me by Mr. Sawyer; further than that I know nothing.

Mr. Rieser: You don't know where the readings were taken?
A. No.

[fol. 253] Q. Or whether that embraces the entire stream, or whether that embraces only part of the stream?

A. They would naturally embrace the entire stream at the point where they were taken.

Q. But you don't know how far above the confluence that was?

A. I don't know that, no.

Q. Your testimony then when you said that the flow in the west branch was greater must be limited to the point where the observations and readings were made by the Railroad Commission of Wisconsin in the report as shown by Exhibit 108?

A. That would refer particularly to these points at which it was taken.

Q. And as yet you haven't made any study to see how the flow of the two streams compares during normal times, have you?

A. No.

Q. And you have made no references in your computations to rainfall at any of the times that the studies were made?

A. No.

Q. Or any study of the conditions under which these surveys, or these guagings were taken?

A. No.

Mr. Rieser: That is all.

Mr. Sawyer: In other words, as I understand it, your testimony is [fol. 254] based entirely upon that exhibit?

A. Based entirely on this exhibit as handed me.

Mr. Sawyer: That is all.

Mr. George H. Rupp, having been heretofore duly sworn and having testified on behalf of the plaintiff, having been withdrawn from the stand temporarily by agreement of counsel, was recalled and testified further on behalf of the plaintiff as follows:

Cross-examination (resumed) by Mr. Rieser:

Q. Mr. Rupp, how would you say the discharge from the mine north of Ironwood into the Montreal drainage basin would compare with the discharge of the Gile mine into the west branch, or into the drainage basin of the west branch?

A. The drainage from the mines pumping their water into the east branch is very much larger than the water coming into the west branch.

Q. The pumpage into Spring Creek, that drains into Spring Creek is much larger, you say?

A. No. You see, that comes from the Davis and Geneva mines, which are very small mines, and not operated extensively; in fact, they have been shut down for some time, particularly the Geneva.

Q. Were they running at the time you were making your investigation?

[fol. 255] A. Probably just pumping from the Geneva.

Q. Well, do you know what the conditions were?

A. I know that the Geneva was shut down, the well water from the Geneva, because the Geneva was shut down, because the shaft house had burned down at that time.

Q. How does the pumpage compare from that mine with the pumpage from the Gile Mine?

A. I am not prepared to state that.

Q. Have you any data of that kind?

A. It can be obtained very easily from the mine records of the Oliver Mining Company. There are a number of mines right around Ironwood adjoining the river on both sides that drain into the east branch.

Q. What is your best judgment as to the amount of pumpage of the mine that discharges its pumpage into Spring Creek?

A. I am not prepared to state that, it varies so much.

Q. That would be discolored pumpage, too, wouldn't it?

A. It would. But water drops an iron ore content very quickly unless the stream is rapid.

Q. Now, I think you said that of the two streams the Montreal River as shown on Exhibit 120 is the slower and more sluggish?

A. Yes, particularly down near the forks.

Q. Well, it would probably be true from Hurley on down?

A. Yes; not entirely; there is one small falls in there, oh, I should [fol. 256] judge for a distance of three or four miles up from the forks of the two branches.

Q. You have had considerable experience in running canoes on various rivers?

A. Yes.

Q. Which of these streams would form the best river for canoeing running up in canoes, and transporting goods in canoes?

A. For the entire distance?

Q. Yes.

A. There isn't vary much choice; they are both very small streams.

Q. Are there any other obstructions?

A. Yes; the log jams in the east and the rapids just above counterbalance the falls and the rapids of the west branch.

Q. The west branch is a good deal more rapid and has a good many more falls; isn't that so?

A. It hasn't any more falls; they are both dropping from about the same elevation.

Q. But the west branch has its droppings by a gradual series of rapids, while the Montreal River has several falls?

A. Yes.

Q. And because of that fact it would be extremely hard to paddle up the west branch of the Montreal?

A. No.

[fol. 257] Mr. Sawyer: I want to ask Mr. Rieser if in referring to the Montreal River you refer to Exhibit 173?

Mr. Rieser: Always, unless otherwise indicated.

Q. Well then you would thing if a person would come to the confluence of these rivers, from your experience, a man familiar with canoeing would naturally take the west branch?

A. He would.

Q. The west branch as you found it on the days you were there?

A. On the days we were there, yes, sir.

Q. And the reason for that is that the log jam that you refer to would immediately become evident to him he would naturally follow the other stream?

A. Yes, the log jam in the east branch.

Q. In the east branch?

A. Yes.

Q. Did you examine that log jam to see what it was made up of?

A. Yes. I remember we went over it trying to find a place where we could make some float measurements.

Q. And it was mad- up of saw-logs, wasn't it?

A. Logs and drift-wood.

Q. Saw-logs of considerable size?

A. I don't remember the saw-logs, but there was undoubtedly a lot of them there.

[fol. 258] Mr. Rieser: I think that is all on that phase of the case.

Mr. Sawyer: I would like just a few questions.

Redirect examination by Mr. Sawyer:

Q. What was the nature of that jam as to its probable age, or duration?

A. Well, that is impossible to determine, of course; but it is a very old jam.

Q. Calling your attention to plaintiff's Exhibit 171, would the angle of the streams as the two branches, the east and west branches of the Montreal join into one, be changed by the operation of the water? Perhaps I should say the course of the stream rather than the angle.

A. Not materially. These banks are about the same.

Q. Which stream, the east or the west branch, permits the most direct course with the Montreal below the junction?

A. The west branch.

Q. Speaking of the pumpage of water from the river by the City of Ironwood, do you refer to water pumped for municipal purposes?

A. Yes.

Q. Can you say whether or not that water in the usual course of municipal affiairs would be returned eventually to that stream?

A. As long as the city was in that same drainage area probably most of it would come back into the same stream.

Q. Well, is it in the same drainage area?

[fol. 259] A. It is.

Q. What do you say as to whether or not the drainage water from

clearings gets into the same stream as it would if it had not been a clearing?

Mr. Rieser: I object to that for the reason it is incompetent, irrelevant and immaterial, and for the further reason there is no foundation laid, the witness not qualified to testify.

Mr. Sawyer: This is re-direct examination strictly. Will you answer?

A. Any water falling at any time within a drainage area will naturally get into the stream that drains that particular territory, whether it is covered with wood or not. I might state, though, as is well known, that if the land is heavily covered with timber it drains much more slowly than when the timber has been removed.

Q. In the cross-examination by Mr. Rieser you were asked about dotted lines upon Exhibit 173, and will you say what those dotted lines referred to represent?

A. The outline of the drainage areas.

Q. Are there any dotted lines there indicating trails?

A. No, sir.

Mr. Sawyer: That is all.

Recross-examination by Mr. Rieser:

Q. So that that fact would indicate clearly that this map could not be obtained from the government surveys?

A. What was that?

[fol. 260] Mr. Rieser: Will you read the question?

(Last question read as follows: "So that that fact would indicate clearly that this map could not be obtained from the government surveys?")

A. Of course it was made from the government surveys.

Q. From the government township surveys?

A. From the government township surveys.

Q. Well, I call your attention to Wisconsin Exhibit 109, and call your attention to the trail shown there, and ask you whether that trail was not shown on Exhibit 173?

A. We did not plat trails; we were platting drainage areas.

Q. Then it isn't a true map of the——

A. No, sir; it is as far as the drainage is concerned.

Q. I will confine myself to the map you testified to this morning.

A. We did not put on that trail.

Q. What else did you omit from the map, that you know of?

A. I do not recall anything in particular that we omitted.

Q. Why did you leave out the trail?

A. Because we didn't deem it important in determining the drainage area.

Q. Then this map here, Exhibit 173, is made solely and only for the purpose of showing the drainage area; is that right?

A. Yes, this one exhibit.

Q. And it is also a fact that the railroads are not shown in the [fol. 261] original government township surveys?

A. Yes. We put those on in order to more clearly define the map.

Q. Nor are the various settlements that are shown on Exhibit 173 on the original government survey?

A. No, sir. They were not in existence at that time.

Q. Well then, what other maps and data were used to prepare Exhibit 173?

A. That was prepared from data in the Oliver Mining Company's office at Ironwood, where this map was made.

Q. Well, what other maps, do you recall?

A. Well, this map of the City of Ironwood and the City of Hurley, and probably some sections of the City of Bessemer. Well, these are not exact copies; we merely wanted to show the location of the different towns, so when we spoke of a place north of Bessemer anybody could understand where it was, or north of Ironwood, or north of Hurley.

Q. The trail would have served the same purpose, wouldn't it?

A. No. The trail is not known, at least, not generally known now. I have never heard of it.

Q. You are familiar with the fact, are you not, Mr. Rupp, that in a cleared area there is a great deal more evaporation than there is in a wild area where there are trees growing?

A. Yes.

Q. And that would naturally affect the flow into the river some? [fol. 262] A. Yes, sir.

Q. You are also familiar with the fact that cultivated plants consume more water than the trees ordinarily do?

A. I would not say that.

Q. Do you know what scientists and experts on that question generally claim?

A. No, sir, I do not.

Q. Or what people who have made an investigation into the situation claim?

A. No, I do not.

Q. Knowing that information you would probably change your estimate as to the effect of clearing and the amount of water that would ultimately get back into the stream from these drainage areas after they had been cleared?

A. I am not prepared to state that, because I don't know what scientists claim on that point.

Q. Now, you said in your testimony this morning, Mr. Rupp, with reference to the Menominee River that there were no changes which affected the channel of the Menominee River; is that right?

A. Well, there were minor changes, of course, due to driving logs down the river. There were also dams across the river, and remnants of old dams.

Q. Which would also affect the channels of the river?

A. Yes, sir.

Q. In fact, would make it very hard at some places to make it possible to determine where the original channel was?

[fol. 263] A. Above the dam it would make it impossible to determine where it was at the time of the survey.

Q. And that was true where there were islands situated as well as where there were not in the Menominee River?

A. I do not recall of any islands directly below a dam.

Q. Do you recall of any islands where the stream or the channel might have changed because of the change of the conditions in the Menominee River?

A. No. If there were old islands the channel would probably remain the same, unless they dredged it, the main channel.

Q. Well, would you say that the channel as you found it in each instance was exactly the same with respect to these islands as it was when the survey was made by Captain Cram?

A. No, I would not say that.

Q. So that there are changes, and there are indications of changes in the river?

A. Yes.

Q. At the head of some of the islands?

A. I do not recall at the head of any particular island.

Q. But there are some changes at the head of some islands that you observed?

A. There might be, yes.

Q. Which would make it impossible to determine now just where the channel was when Captain Cram ran that river?

A. Very liable to be, yes.

[fol. 264] Q. And it is true, isn't it, that where lumber or timber is floated down rivers that it is quite common for points in the river to be entirely torn away and taken away, and that would change the channel?

A. Yes.

Q. And there are some indications of that in that river?

A. Yes. I do not recall that that changed any channel.

Q. But you could not tell that?

A. Oh, they would tear points away, of course.

Q. And in doing so that would tend to change the channel of the river?

A. That would tend to change the form of the bank if you tore away the points.

Q. And the form of the banks would tend to change the general flow of the water in the river?

A. To that extent, yes.

Q. And so would also the deposit of drift-wood in the bottom of the river, or dead-heads?

A. Yes.

Q. In the region below Miscauna Island, are you familiar with Miscauna Island?

A. Yes.

Q. Down to the cities of Menominee and Marinette most of the river bed is sand and gravel, and a large part of the banks are sand and gravel?

A. As I recall it, yes.

[fol. 265] Q. And they would be particularly susceptible to changes from the effect of floating logs down the river?

A. Yes.

Q. So also would the effect be of building small dams at some of the channels?

A. Yes, particularly above the dam.

Q. Above the dam?

A. Yes.

Q. And would be at the site of the dam?

A. Yes.

Q. Did you observe that there were quite extensive deposits just below the little dams at several places?

A. Deposits of what?

Q. Of sand and gravel?

A. I do not recall any particular deposits, but there undoubtedly were.

Q. Do you recall of ever seeing some of those deposits with trees and shrubbery growing on it?

A. No, I do not.

Q. There are several dams now in operation on the Menominee River, are there not?

A. There are.

Q. The Grand Rapids dam is a dam of considerable size?

A. What dam does that refer to, right out here in the city?

Mr. Sawyer: We call it the power dam.

A. Yes, the power dam.

Mr. Rieser: I refer now to the Marinette & Menominee Light & Traction Company's dam.

[fol. 266] A. Yes.

Q. And the back-water of that dam extends several miles up the river?

A. Yes, sir.

Q. Extends up very nearly to where the Wisconsin & Michigan Railroad line crosses the Menominee River, do you recall?

A. I do not recall, but several miles back from the dam.

Q. And you cannot now, with that dam in operation and having been built, tell where the channel of the river was prior to the building of that dam?

A. No, sir.

Q. That is also true in the region above Sturgeon Falls?

A. Yes, sir.

Q. And it would be true also in the region where the Quinnesec dam has been built?

A. Yes, sir.

Q. It is also true, isn't it, that river channels change where there are sand and gravel bottoms with every flood-water?

A. Yes; sand-bars shift during flood times always.

Q. So that at this time no one could tell where the channel was sixty, seventy or eighty years ago in those regions?

A. Well, undoubtedly you could mark the main channel.

Q. At the present time?

A. At the present time. And these sand-bars would not shift the [fol. 267] channel to any great extent. That is, it would not change the river, or cut out one bank or the other bank particularly.

Q. But it might change the main channel of the river materially?

A. Yes, it might change the main channel, of course.

Q. That condition is particularly true in the vicinity of the so-called Sixty Island section of the Menominee River, the place where you found only a few islands?

A. Yes. And undoubtedly there was some work done up there to clear out a channel so they could float logs, that is, deepen one particular part to float the logs down.

Q. That would be necessary in some of the places where the river was extremely wide?

A. Yes. They would naturally take the deeper channel, to begin with.

Q. Unless the deeper channel was a winding and twisting channel?

A. Yes.

Q. They would then try to obtain as nearly a straight channel as possible to prevent jamming of logs, and so forth, in the river?

A. Yes, sir.

Q. Now, how long were you on this trip down the Menominee River from the place where you took the water until you left it?

[fol. 268] A. It was either two or three days, I have forgotten which.

Q. And about how far did you travel during that time?

A. Oh, I couldn't tell without reference to the map, and measuring the thing.

Q. Did you take any soundings on your trip?

A. No.

Q. Took no soundings at all?

A. No.

Q. Any statements in your report that has been offered here as Exhibit 172 were mere estimates as you were going along in the canoe?

A. Based on observations, yes, sir.

Q. The water is clear there?

A. Yes, sir.

Q. So that you just expressed your judgment as to the depths at the various places?

A. Our best judgment.

Q. You say also that the river was unusually low at that time?

A. It was at that time.

Q. Low below normal?

A. Yes, sir.

Q. The flow of water in that river has been materially altered and changed, has it not, as a result of the construction of numerous dams?

A. At points above the dams.

Q. And below the dams as a result of holding back water?

A. Yes, but that would not change the main channel much below the dam.

[fol. 269] Q. Wouldn't it, as the water got lower, tend to affect the channel to some extent?

A. I would not say that it tended to change the main channel to any extent.

Q. What do you refer to when you say "main channel"? What do you mean by that, Mr. Rupp?

A. A line under which the greatest volume of water flows, usually the deepest part of the river.

Q. And how would you estimate or determine that, by the flow at the top of the stream, or in the bottom of the river bed, or how?

A. No. You would have to take a cross section by a current meter would probably be the easiest method; to determine it exactly, you would have to apply a Weir cross.

Q. And until you did that you could not correctly or accurately measure the current?

A. No.

Q. And that would be especially true where the water was extremely low?

A. Yes. You could make a rough estimate on the velocity of the water by timing floats.

Q. Now then, in places where in one channel on one side of an island there were rapids and water-falls, and the other side there was a smooth run of water, there the channel might be materially affected and the flow of water might be materially affected by lower water?

A. Yes.

[fol. 270] Q. So that again your conclusions drawn at the time you made the trip do not accurately represent the normal conditions of the Menominee River, because the river was a good deal lower than normally?

A. Well, they represented our best judgment.

Q. Your best judgment?

A. That is all. We took no measurements.

Q. Which would be in the nature of a guess, largely?

A. Yes.

Q. I call your attention particularly to the condition at Miscauna Island; do you know what the condition of the river bed is on the Michigan side of the island?

A. I do not remember without reference to that report.

Q. Do you recall at all as to whether or not there were rapids and falls in that region?

Mr. Sawyer: Now, if the Commissioner please, we have the diagrams of all that here, all of that section, offered by the defendant, or proposed by the defendant, and if we want to save time I suggest that they be referred to. I shall be obliged to go over them, if they are going to be gone over in this loose way. Miscauna Island is not represented by name on any of these maps; and I shall be obliged to follow all these diagrams through, unless they can be more specific at the present tim.

The Commissioner: Is that Miscauna Island referred to on the report?

[fol. 271] A. It is, your, Honor.

Mr. Rieser: Yes, your Honor.

Mr. Sawyer: But it is not referred to by section. I am simply saying I will have to take the time to go over it, unless they make it more specific now. And I ask, if he is to be examined further in regard to these details, that he be permitted to have the report in his hand when he answers.

Mr. Rieser: I am asking for his recollection.

The Commissioner: If the witness isn't clear in his recollection he may refresh his recollection from an examination of the report.

Mr. Sawyer: I am simply asking that he be permitted to examine his report before he answers.

The Commissioner: That privilege will be accorded him.

A. (After examining report above referred to). I have noted in the report the channel between the Island and Wisconsin side——

Mr. Rieser: I am asking you about the channel on the Michigan side, Mr. Rupp.

Mr. Sawyer: Of which, Miscauna Island?

Mr. Rieser: He understands that question.

Mr. Sawyer: I want to understand, Mr. Rieser; which island do you refer to?

Mr. Rieser: I said Miscauna Island.

[fol. 272] Mr. Sawyer: Then I ask that the witness be permitted to refer to sheet 27 of defendant's Exhibit 198, which shows that island and the Michigan shore.

The Commisisoner: That exhibit is in evidence, is it Mr. Sawyer?

Mr. Sawyer: They have proposed it, but it has not been offered.

The Commissioner: The witness may examine it.

The Witness (after examining said exhibit): The channel between the island and the Michigan shore is two hundred feet wide, but very shallow and flat, has practically no current, and is full of weeds.

Mr. Rieser: Where was that in that channel that the weeds were growing?

A. Between the island and the Michigan side.

Q. But between what part of the island and the Michigan side?

A. I do not recall, because we have not stated it.

Q. Did you go through that channel at all?

A. I do not recall whether we went through that or went through the deeper channel on the Wisconsin side. We circled it.

Q. Did you go through both channels then, do you say?

A. As I recall it now, we tried to get down one channel, and that one was the deeper channel, because it was better canoeing, and then turned around and tried to get up the other side. That was our usual method.

[fol. 273] Q. You found, didn't you, that on the Michigan side there were a series of falls and obstructions which were visible in the low water at that time?

A. No, I do not recall that.
Q. In the form of rocks, and so forth?
A. Well, there are rocks all along there.
Q. In the form of boulders extending across the river, or rock beds?
A. I do not recall that.
Q. Do you recall any such bed several hundred feet below the Michigan-Wisconsin Railway bridge?
A. No.
Q. Do you recall any in these surveys some distance below, about half way down on the Michigan side of the channel?
A. No. I may state, with reference to this report, that we made this trip in three days, or two days, I have forgotten which, and that was the only time I ever made a canoe trip down that river, and the smaller details I cannot remember. I wrote my section of this report immediately after arriving here, and I have not revisited the island since.
Q. Did you examine to see whether or not the building of the pier heads for the bridge had any effect on the channel of the river?
A. I do not recall those details. We just expressed our best judgment as to where the main channel was.
[fol. 274] Q. Now, this is true, isn't it, that the thread of the channel in the Menominee River flows from one bank to the other continuously?
A. Yes.
Q. So it has kind of a saw-tooth effect all the way down the river?
A. It is true of any river.
Q. That is particularly true of the Menominee, with the hard steep banks that are there?
A. I did not notice it particularly, because that is common to all of them; but it has to be so.
Q. About how many times in the course of a mile would you say the thread of that channel would vary from — bank to the other, on the average?
A. I could not say that.
Q. Have you any judgment on that at all?
A. No; I don't remember.
Q. It would be quite frequently, though?
A. It is liable to be, yes. Mr. Meredith Sawyer can probably inform you better on that, because he has fished and hunted on that river a great many years, while I only made one trip down it.
Q. And all these details in the river would be lost in making a survey above all dams that have been constructed?
A. Yes.
Q. And where changes have taken place by reason of change in [fol. 275] the banks, that detail would also be changed as compared to the condition existing at the time Captain Cram went down the river?
A. Yes, sir.

Q. And with higher water that condition might also have changed somewhat?

A. In what way do you mean by higher water?

Q. With respect to where the thread of the stream was?

A. Not greatly, because with low water you usually find your deepest part of the river without any trouble.

Q. But sometimes with higher water, because of the more rapid flow of the stream in some other part of the bed your channel might be changed to that place?

A. It might be; but the probabilities are that it would still follow your deepest channel.

Q. You would expect to find that especially true in a river with a great part of it solid rock structure underneath?

A. Yes, that might change.

Mr. Rieser: I think that is all.

Redirect examination by Mr. Sawyer:

Q. What would you say in following a somewhat crooked river as to which side of the curve the current usually follows?

A. Practically always the outside of the curve.

Q. Now, in your cross examination you were asked if your observations were not in the nature of a guess; if it was a guess it was [fol. 276] based upon the observations you were making, was it not?

A. Yes; and it was our best judgment.

Q. And in your cross examination where the questions referred to conditions above the dam do your answers refer to the whole river above the dam, or to that part immediately above the dam?

A. Only the flooded area above the dam.

Q. Can you state whether or not in your examination the banks indicated any change in the main channel along where the islands were located?

Mr. Rieser: Just a moment. I object to that for the reason it is incompetent, irrelevant and immaterial and for the further reason that I don't hardly imagine you would find the channel on the banks.

Mr. Sawyer: I didn't think it was so worded. Let the reporter read the question.

(Last question read as follows:) "Can you state whether or not in your examination the banks indicated any change in the main channel along where the islands were located?"

Mr. Sawyer: That is right. I think that is clear.

A. I do not recall any changes of the banks.

Q. It asks if the banks indicated any change in the channel; that is the question.

A. It is particularly difficult to determine the main channel by an observation of the banks.

[fol. 277] Q. I have asked whether your observations indicated any change?

A. No.

Q. I would prefer to put that question in this way: From your observation of the general conditions of the river as to the islands reported upon, except in two or three instances where you made note of the situation being questionable, did your observations indicate any change in the channel?

A. No, sir.

Mr. Sawyer: That is all.

Mr. Rieser: By that do you mean, Mr. Witness, that you would say now there was no change in the channel?

A. I would say that there is nothing that we could observe that would indicate any change of the channel.

Q. In a two-day trip down the river.

A. Yes.

Q. But probably a careful survey of the river might show material and decided changes?

A. I don't know how you would determine a change, unless you had a survey at the time that Captain Cram went down the river.

Q. That's it exactly. So that now the condition you would find with reference to the channel would be the condition now, and nobody can tell what the condition of the channel was when Captain [fol. 278] Cram made that trip down the river?

A. You can tell pretty closely; but you cannot tell above power dams, or where men have done any excavating, or built dams across the river; but the main channel would undoubtedly stay the same, unless they dredged it.

Q. Or unless there were some other causes, like high water, or the effect of dams in the river, or the deposit of logs in the river bed?

A. That might have some influence, certainly.

Q. And you made no observations at some of the places where there were sand and gravel bottoms as to whether there were any deposits under that sand and gravel, or logs and drift-wood?

A. I did not. That would be a two-year job.

Q. If you had that information it might make some material difference as to your conclusion as to where the channel was some time ago?

A. It might.

Mr. Rieser: That is all.

Mr. Rieser: There is no cross examination of Mr. Burridge on the Menominee River subject.

The Commissioner: You are not going to cross-examine Mr. Burridge?

Mr. Rieser: No.

[fol. 279] Mr. Sawyer: Instead of filing in evidence the original sketch of the engineers as testified to having been made at the time of the examination of the forks of the Montreal Rivers it is agreed that the blue-print, Plaintiff's Exhibit 171, is a correct reproduction of that sketch and may be introduced in its place.

Mr. Rieser: That is all right.

At this point the further hearing of evidence in this cause was adjourned subject to the convenience of the counsel and the Commissioner.

[fol. 279a] CERTIFICATE OF SPECIAL COMMISSIONER

To the Honorable Supreme Court of the United States:

I, Conway Elder, duly appointed by the Supreme Court of the United States as Special Commissioner in the cause of the State of Michigan vs. the State of Wisconsin, original Number 21 to the October Term, 1923, to take the proofs offered by the respective parties to the said cause and to report such proofs to the said Court, do hereby certify that the foregoing typewritten transcript, comprising 279 pages, is a transcript of the evidence offered by plaintiff and defendant in the said cause before me as such Special Commissioner, together with the rulings thereon; that the witnesses appearing were by me respectively sworn to testify to the whole truth touching the matters with respect to which they testified; that their testimony was taken in shorthand before me as such Special Commissioner, by H. A. Buck, duly appointed stenographer for that purpose, and afterwards transcribed into typewriting, the same being now returned herewith.

In Testimony Whereof I have hereunto set my hand at St. Louis, Missouri, this 27th day of January, 1925.

Conway Elder, Special Commissioner.

[fol. 280] IN SUPREME COURT OF THE UNITED STATES

[Title omitted]

Transcript of Testimony Taken Before Margaret M. Holt, Special Commissioner

CAPTION

Pursuant to stipulation entered into by counsel for plaintiff, and defendant present, testimony on behalf of the plaintiff was taken by and before me, Margaret M. Holt, acting by agreement as Special Commissioner, at Menominee, Michigan, beginning on the 17th day of November, 1924, at ten o'clock in the forenoon.

APPEARANCE OF COUNSEL

A. L. Sawyer, Esq., of Menominee, Michigan, Special Counsel for Plaintiff.

R. M. Rieser, Esq., of Madison, Wisconsin, Special Counsel for Defendant.

Reported by Margaret M. Hoit, Superior, Wisconsin.

[fol. 281] The plaintiff, to sustain the issues upon its part, offered the following evidence, to-wit:

MARY ANN COTA, being duly sworn as a witness on the part of the plaintiff, before Charles C. Hanson, notary public in and for the county of Menominee, Michigan, testified as follows:

Direct examination by Mr. Sawyer:

Q. Your name is Mary Ann Cota?
Q. How old are you?
A. I am sixty-eight.
Q. You have been a married woman?
A. Yes.
Q. What was your husband's name?
A. McGuire Cota.
Q. How old were you when you were married?
A. Seventeen.
Q. And where were you born?
A. I was born in Sturgeon Bay, Wisconsin.
Q. And where were you when you were married?
A. Egg Harbor, Wisconsin.
Q. You are a full blooded Menominee Indian, are you not?
A. Yes.
Q. Your husband was a white man?
A. Yes.
Q. What was your father's name?
A. Keewaskum.
Q. Where did he live?
A. He used to live in Sturgeon Bay.
Q. Did he live there all his life?
A. Not all the time.
Q. Was that his home?
A. Yes, he was home every Sunday.
Q. He lived there from the time he was little, you say?
A. Yes.
[fol. 282] Q. It is the Indian habit anyway to move around the country but to have one place for a home?
A. Yes, and he had the place Sturgeon Bay.
Q. Do you know where his father lived before him?
A. He used to live with them.
Q. Your grand-father?
A. Yes.
Q. Was his home also at Sturgeon Bay?
A. Yes.
Q. Did you live with the other Indians in that range?
A. Yes.

Q. Your grand-mother also lived there?
A. Yes.
Q. And she was a full-blooded Menominee Indian?
A. Yes.
Q. Were your father and your grandfather buried over there?
A. Grandfather was buried there, but my father was buried here in Menominee, because he was very old and was sick and when I moved here I took along both mother and father and they died here.
A. And your grandfather was buried over there?
A. Yes, at Sturgeon Bay.
Q. Have you always lived on Green Bay, one shore or the other?
A. Yes, we been always on Green Bay.
Q. Your father has been dead how long?
A. I believe it is twenty years ago.
Q. You say you were married at seventeen, at Egg Harbor?
A. Yes.
Q. Before that, had you lived with your father and mother all the time at Sturgeon Bay?
A. Yes.
Q. After you were married, where did you live? Did you live [fol. 283] at Egg Harbor?
A. Yes, Egg Harbor, yes.
Q. And then where did you move from Egg Harbor?
A. We moved to Little Sturgeon Bay.
Q. That's on the east shore of Green Bay south of Sturgeon Bay, isn't it?
A. It is the next place to Sturgeon Bay.
Q. And from Little Sturgeon where did you move?
A. We moved here.
Q. To Menominee, Michigan?
A. Yes.
Q. Have you lived here all the time since?
A. Well, I went to the Reservation fourteen years.
Q. Your home is now in Menominee?
A. Yes.
Q. What was your husband's business—McGuire Cota's business?
A. Sailing.
Q. All his life after you knew him?
A. Yes, all his life, after I knew him.
Q. Do you know whether he was a sailor before you knew him?
A. Yes, he told me.
Q. Where did he sail before you knew him?
A. In the salt water.
Q. After you were married, where did he sail?
A. In Lake Michigan.
Q. In sailing on Lake Michigan, did he come into Green Bay, too?
A. Yes, he went all over wherever they hauled stuff, you know—freight.

[fol. 284] Q. I think according to the figures you have given us, your age and date of marriage, you were married in 1873?
A. Yes.
Q. And from that time, your husband sailed on the waters of the lake and Green Bay?
A. Yes.
Q. What was his general work while he was sailing—what did he carry?
A. Lumber and cordwood and bark.
Q. Where would he usually load his cordwood?
A. At Egg Harbor.
Q. Where did he usually load his lumber?
A. On the Menominee River.
Q. Where would he take the coordwood and lumber generally?
A. He would go to Milwaukee and Chicago.
Q. Did you ever go with him on some of his trips?
A. Yes.
Q. What did he take when you went with him?
A. Lumber.
Q. Where did he load that lumber?
A. I couldn't say, there was so much water.
Q. Where did he load it, on the Menominee River?
A. Yes, at the mouth of the Menominee River.
Q. Where did he take it—I mean where did he go to?
A. Milwaukee.
Q. What course did he take it through the Bay?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, and for the reason that there is no sufficient foundation laid, and [fol. 285] for the further reason that it relates to a time different from that at which the boundary line was established.

Mr. Sawyer: Was this time that you speak of soon after you were married?
A. After my children was growing up.
Q. How old was your oldest boy then?
A. Mr. Sawyer, he was working right along to make our living and taking freight from Milwaukee and Chicago and all over.
Q. Will you answer direct—what course your husband took through the Bay at the time you went with him?
A. He took it down that way (indicating).
Q. Which way did he go from Menominee?

Mr. Rieser: Same objection.

A. He went right through that way (pointing). I can't talk English very good. We went through Washington Harbor just this way (indicating).
Mr. Sawyer: Did you go across Fish Creek or up through Washington Island?

Mr. Rieser: Same objection.

A. The same way. We went straight across to Fish Creek.

Mr. Rieser: I ask that the answer be stricken out for the reason that no sufficient foundation has been laid, it is incompetent, irrelevant and immaterial, and that it relates to a time different from that in which the boundary was established.

[fol. 286] Mr. Sawyer: And from Fish Creek, which way did you go?

Mr. Rieser: Same objection.

A. We went the same way, up that way, you know. (Pointing.)

Mr. Sawyer: Do you mean up the East shore of Green Bay towards Death's Door?

Mr. Rieser: Objected to for the same reason as made to other questions, and for the further reason that it is leading and suggestive.

A. Yes.

Mr. Rieser: I move that the answer be stricken out for the same reason.

Mr. Sawyer: It appears this lady being an Indian, expresses herself by signs, indicating the course, and it therefore becomes necessary to use more leading questions.

Mr. Rieser: I ask that this statement be stricken out, and that this witness has not made any signs, motions or signals which would indicate that she has referred to any channel in Green Bay.

By Mr. Sawyer: When you say up that way, which channel do you mean,—which side of Chambers Island?

A. On that side toward Fish Creek. (Indicating.)

Mr. Rieser: I ask that the answer be stricken out as incompetent, irrelevant and immaterial, and no sufficient foundation laid for the [fol. 287] testimony, and also for the further reason that the testimony relates to a different time than that at which the boundary line was established.

By Mr. Sawyer: What course did you take out into the lake from the bay when you went north from Fish Creek, which channel did you take out into Green Bay?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, and no sufficient foundation laid and relates to a time different than that at which the boundary line was established.

A. It was blowing awful hard, and they kind of beat, and he went straight up that way with beating.

By Mr. Sawyer: Did you go through Death's Door or Rock Island passage?

Mr. Rieser: Same objection.

By Mr. Sawyer: You know where Death's Door is?

Mr. Rieser: Same objection.

A. Yes.
By Mr. Sawyer: Did you go through there?

Mr. Rieser: Same objection.

A. Yes.
By Mr. Sawyer: What was your father's business, generally?
A. He used to go around you know, with John Jacob, and show him the way on the water.
Q. A pilot?
A. You see, the Indian didn't know the place the way you ask me. [fol. 288] Q. He did not call it a pilot, but he went to show the people the way to go with their boat?
A. Yes, and Frank Sawyer, he used to go with him.
Q. What was Frank Sawyer's business?
A. Used to haul freight—used to go all over.
Q. Where was Frank Sawyer's headquarters? Where did Frank Sawyer have his business?
A. Sturgeon Bay.
Q. And did he also have a business at Bay Settlement, near Green Bay?
A. Yes. After that he sold that place and he was getting old and he moved to Bay Settlement.
Q. Now you say that your father would go to show men where to run their boats?
A. Yes.
Q. And where would he go, from what place?

Mr. Rieser: Object to that for the reason it is incompetent, irrevelevant and immaterial, and no sufficient foundation laid.

A. Green Bay.
Q. From Green Bay?
A. Yes.
Q. And where would he go after he left Green Bay?

Mr. Rieser: Object to that for the reason it is incompetent, irrelevant and immaterial, and no sufficient foundation laid.

A. They came up this way (indicating) North.
Q. Around North?
A. Yes.
Q. Up by Fish Creek?
A. Yes.

Mr. Rieser: Same objection, and ask that the answer be stricken [fol. 289] out for the reason given in the objections to the previous question.

Mr. Sawyer: Which side of Chambers Island would they go?
A. They call it up that way (indicating) west.
Q. This side or the further side?

A. The further side.
Q. That would be the east side?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and no sufficient foundation laid.

A. Yes.
Mr. Sawyer: Do you know what channel they would take out into the bay?

Mr. Rieser: Same objection.

Mr. Sawyer: Out into the lake?

Mr. Rieser: Same objection.

A. I can't tell you that Mr. Sawyer, we didn't use them words. We just point—my father just point—he did not understand English.
Q. But you knew which way he pointed?
A. Yes.
Q. And you know whether he told them to go through the Door?
A. Yes.

Mr. Rieser: I ask that the answer be stricken out as incompetent, irrelevant and immaterial and no sufficient foundation laid.

[fol. 290] Mr. Sawyer: Now you said that he used to work for Frank Sawyer. Did he sometimes work for others too, in the same way?
A. Yes.
Q. Tell me what they would employ him to do? Would they put him on the vessel, or would they send him to meet a vessel that was coming in?
A. Yes, they would tell him to come and get them, to meet them boats there.
Q. Where would they have him go to meet them?
A. Meet them down there,—I don't know what you call that place.
Q. The Door?
A. The Door.

Mr. Rieser: I ask that the answer be stricken out and object to the question for the reason it is incompetent, irrelevant and immaterial and no sufficient foundation laid.

Mr. Sawyer: And show them the way out?
A. Yes.

Mr. Sawyer: It is very apparent that the witness is not in command of the language, but by signs and otherwise tries to express her meaning, and it is necessary to give her the words at times.
Mr. Rieser: Object to that. It is not born out by the record in this case.
Mr. Sawyer: Have you ever known of people coming to your father's house to inquire the course they would take through the Bay?

[fol. 291] Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, and no sufficient foundation laid and calls for hearsay testimony.

Mr. Sawyer: I mean in regard to those things in your very early life, when you were a little girl, did you ever know of sailors coming to your father's house to inquire the course to take through the bay?

Mr. Rieser: Same objection.

A. I don't know, but there came several white mans.
Q. When you were a little girl?
A. They came in, so father told ma, "I got to go," he said, "to show them."
Q. He told your mother that he had to go and show them?
A. Yes he told ma "I got to go and show them."

Mr. Rieser: I ask that the answer be stricken out for the reason that it is hearsay, and no sufficient foundation laid, and incompetent, irrelevant and immaterial.

Mr. Sawyer: Did you ever hear your father tell them which way to go, when he did not go with them?

Mr. Rieser: Same objection.

A. Yes he told them how to go. He marked them you know, and showed them.
Mr. Sawyer: Can you tell which side of Chambers Island his marking would be?

[fol. 292] Mr. Rieser: Same objection.

A. Well through the door, we went right straight up that way through the door to Washington Harbor, through that way (indicating).

Mr. Sawyer: Up straight to the door, would that be east of Chambers Island—the other side of Chambers Island?

Mr. Rieser: Same objection.

A. Yes.
Mr. Sawyer: What do you know about the other sail boats of those days,—did they go the same way?

Mr. Rieser: Same objection.

A. Yes.

Mr. Sawyer: In those early days when you lived at Sturgeon Bay and Egg Harbor, did you get everything that you bought by boat?

Mr. Rieser: Same objection.

A. Yes.

Mr. Sawyer: In your father's family, did you often hear your own people and the neighbors talking about the way the boats ran?

Mr. Rieser: Same objection.

A. Yes.

Mr. Sawyer: Did that accord with what you have said as to the course that was taken?

Mr. Rieser: Same objection.

A. Yes.

Mr Rieser: And for the further objection that it is hearsay, and [fol. 293] I move that the answer be stricken out for the same reasons.

Mr. Sawyer: Do you remember whether or not your father would tell them why they should go through the East channel,—any reason for it?

A. Because they thought that it was rough.

Q. Because it was rough where?

A. Somewheres up that way, I hear him tell them it was rough,—show them.

Q. Was that west of Chambers Island that it was rough or where?

Mr. Rieser: Same objection.

Mr. Sawyer: When he spoke of it being rough, did he mention Peshtigo Reef or Green Island or any of those points?

Mr. Rieser: Same objection.

A. Yes, awful rough there.

Mr. Sawyer: Did you ever hear him say anything about going along the east shore being a better channel or anything in that line?

Mr. Rieser: Same objection.

A. The shore where Peshtigo—that way?

Mr. Sawyer: Yes?

Mr. Rieser: Same objection.

A. Yes he said it was better up that way, better sailing.

Mr. Sawyer: You saw boats, going along the shore there?

Mr. Rieser: Same objection.

A. Yes.

Mr. Sawyer: Which course did they take?

Mr. Rieser: Same objection.

A. The same place, right to Washington Island. You know, Mr. Sawyer, I speak to you because them Indians a long time ago, they knew where to go with birch bark, you know they all sailed up that way.

Mr. Sawyer: Can you remember as far back as when the traders from Green Bay used to take their furs to Mackinac?

Mr. Rieser: Same objection.

A. Yes, that used to be John Day; he used to buy maple sugar. I was little.

Mr. Sawyer: Can you remember ever seeing any of those old fleets, when they used the Mackinac boats carrying freight to Green Bay?

A. Yes.

Mr. Rieser: Same objection and I ask that the answer be stricken out; no sufficient foundation laid and incompetent, irrelevant and immaterial.

Mr. Sawyer: What course did they take?

A. They passed that way (indicating) and they were singing.

Q. How many of those boats did you ever see in one fleet?

Mr. Rieser: Same objection.

A. A lot of them.

[fol. 295] By Mr. Sawyer:

Q. And you noticed them singing?

A. Yes.

Q. Did you see those many times?

Mr. Rieser: Same objection.

A. Yes.

Mr. Sawyer: Who usually runs those boats, were they the Frenchmen?

Mr. Rieser: Same objection.

A. Yes, Frenchmen.

Mr. Sawyer: Have you ever crossed the bay from Menominee to the East shore in boats?

A. Yes.

Q. Have you done so many times?

A. Many times, yes.

Q. Can you tell where the roughest part of the Bay is between here and Fish Creek?

Mr. Rieser: Same objection.

A. It is Green Island on this side.

Q. On which side of Chambers Island?

A. It was on the other side.

Q. On which side is it the roughest,—on this side?

Mr. Rieser: Same objection.

A. On the other side.

Mr. Sawyer: Do you mean on Green Island or Chambers Island?

A. That's Green Island.
Q. Between here and Chambers Island, is it rough or is it not?

Mr. Rieser: Same objection.

A. Yes.
[fol. 296] Mr. Sawyer: Which is the safest place, west or east of Chambers Island?

Mr. Rieser: Same objection, and the further reason that the witness is not qualified to testify.

A. The east, up that way (indicating).
Mr. Sawyer: Do you remember the first steamboat you ever saw?
A. Yes.
Q. How big were you when you first saw a steamboat?
A. I was nine years old.
Q. Where were you,—at your father's home in Sturgeon Bay?
A. Yes.
Q. Do you know where that boat ran?

Mr. Rieser: Same objection.

A. To Green Bay.
Mr. Sawyer: And which side of the Bay did they come?

Mr. Rieser: Same objection.

A. They came up that way (indicating).
Mr. Sawyer: You mean by Sturgeon Bay?
A. Yes.

Mr. Rieser: I ask that the answer be stricken out as incompetent, irrelevant and immaterial and no sufficient foundation laid.

Mr. Sawyer: Which side of Chambers Island did they go?

Mr. Rieser: Same objection.

A. Well, on that side (indicating).
Mr. Sawyer: On the further side?

Mr. Rieser: Same objection.

A. Yes.
Mr. Sawyer: When you say "that side," do you mean between
[fol. 297] Chambers Island and Fish Creek?

Mr. Rieser: Same objection.

A. Yes.
Mr. Sawyer: Did you see other steamboats after that, right along?

Mr. Rieser: Same objection.

A. Yes.
Mr. Sawyer: What course did they take?

Mr. Rieser: Same objection.

A. The same way.

Mr. Sawyer: In those days did you ever know of steamboats going west of Chambers Island?

A. Yes, seen them,—do you sall "west" up that way (indicating)?

Q. No, this side of Chambers Island. Which do you mean, did they go between Chambers Island and Fish Creek?

Mr. Rieser: Same objection.

A. Yes. Oh, I see all boats, Mr. Sawyer, they went the same way when I looked at them.

Mr. Rieser: I ask that that answer be stricken out as volunteered by the witness and not responsive, and also incompetent, irrelevant and immaterial and relates to a time other than that at which the boundary line was established.

Mr. Sawyer: How large was Sturgeon Bay when you first remember it?

A. How large?

Q. How many families?

Mr. Rieser: Same objection.

A. Only two. It was Bob Graham and Scott. He used to have a ferry boat. It was no road at all.

[fol. 298] Mr. Sawyer: Across Sturgeon Bay?

A. Yes.

Q. What was there at Green Bay at that time, do you know, or Fort Howard?

A. It was Fort Howard. That Indian, they had a kind of office there and some houses.

Q. An Indian office?

A. Yes.

Q. Were there any soldiers there?

A. Yes, soldiers there.

Q. Now, have you ever heard your mother tell of any trips to Mackinac in the very early days before you can remember?

A. Yes.

Q. What did she say about any early trips?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and hearsay, and no sufficient foundation laid.

A. You know his Godfather, he moved down that way.

Q. You mean your mother's Godfather?

A. Yes. They went down that way in a birch bark canoe.

Q. Your mother went down from Sturgeon Bay to Little Mackinac?

A. Yes, to Little Mackinac, and when it came night, they stopped at some of those islands. He said it was awful far.

Q. They went in a birch bark canoe?

A. Yes, birch bark.

Q. They called it a birch bark, did they?

A. Yes, birch bark.
Q. And did she state where she stopped?
A. In Mackinac, that big place there.
[fol. 299] Q. Did she tell where they stopped, any place on the way?

Mr. Rieser: Same objection.

A. Yes, they stopped at them Islands.

By Mr. Sawyer:

Q. Which islands?
A. They didn't say which, but they said they stopped at Islands
Q. Did you ever hear them mention Beaver Island or Fox Island?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, and no foundation laid, and it relates to a time entirely different than that at which the boundary line was established.

A. They mentioned Beaver Island in Indian.

By Mr. Sawyer:

Q. What did they call it in Indian?
A. "Miko kandok,"—that's beaver in Indian. They had all the islands named in Indian names.
Q. Did she tell you what course they took up through Green Bay when they went with the canoe?

Mr. Rieser: Same objection, and it is hearsay.

A. The same way—the same way, they went right straight by them islands, one after the other.
Mr. Sawyer: When you say the "same way" you mean up the east channel of Green Bay?
A. Yes.

Mr. Rieser: Same objection and ask that the answer be stricken out, as incompetent, irrelevant and immaterial and no sufficient foundation laid and hearsay.

Mr. Sawyer: Do they have an Indian name for the Door?

[fol. 300] Mr. Rieser: Same objection.

A. Kee-bi-Skhonan.
Mr. Sawyer: And did your mother mention that name when she told which way they went?
A. Yes.

Mr. Rieser: Witness gives me no opportunity to object. I move that the answer be stricken out on the ground that it is incompetent, irrelevant and immaterial and no sufficient foundation laid, and it is hearsay.

Witness: I am very sorry in my heart that my parents did not send me to school, but I have all my children go to school.

Mr. Rieser: It was impossible to interject objections before the answer was made in a good many instances and for that reason motions were made to strike out. The failure to object was due in part to the fact that the answer was made so quickly that no objection could be introduced and that it did have a tendency also to embarrass the witness.

Mr. Sawyer: And if you want to, the motion to strike out may be considered with the same effect as though the objections were interposed before the answer.

Mr. Rieser: No cross-examination.

[fol. 301] Dave Cota, being duly sworn, on his oath testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. Mr. Cota, you are a son of Mary Ann Cota who has just testified, are you not?

A. Yes.

Q. Your mother was a full blooded Indian and your father a white man?

A. Yes.

Q. Where were you born?

A. I was born in Egg Harbor, Door County, Wisconsin.

Q. In what year?

A. It must have been about the year 1877, or thereabouts.

Q. Your father's name was McGuire Cota?

A. Yes.

Q. What was his business?

A. My father has always been sailing, all his lifetime.

Q. Was he a captain?

A. Yes, he was in capacity of a captain.

Q. On what kind of vessels?

A. On sailing vessels only.

Q. When you were a small boy, what kind of sailing vessels were used mostly on the bay?

A. Principally a flat bottom, equipped with canvas to sail by.

Q. State as to whether they usually used small boats or large ones?

A. Well mostly as I remember when I was a little bit of a boy, the sailing was carried on in handling supplies here, and my father handled mostly sailing vessels of the two mast type and when they [fol. 302] hauled lumber they used the three mast type and carried up to about two hundred tons.

Q. Now, what has been your business most of your life?

A. Up to about seven or eight years ago we were sailing.

Q. How early did you begin going out on sailboats? How early in your life?

A. I must have been about fourteen years of age when I made my first sailing on these new type of vessels outside of my father.
Q. How early did you go out with your father?
A. Ever since I can remember, a little bit of boy, remembering back, I can safely say eight or ten years of age.
Q. Did you go with your father very much?
A. Why always.
Q. Where did he usually run with his sail boat?
A. My father was in the type known today as "tramp" ship. He would go wherever he got a charter, but most of the time it was the trade of cordwood of Door County to Manitowoc or Milwaukee.
Q. Where would he load?
A. At Egg Harbor, Fish Creek, Juddville.

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and no sufficient foundation laid, and relates to a time when the boundary line was not established.

Mr. Sawyer:

Q. After he would load, what course would he take and where would he go?
A. In going to Milwaukee?
Q. Yes?
[fol. 303] A. This here time when I can remember the ship canal was a toll canal at Sturgeon Bay. If the wind was south, my father would take the Door, and going through the Door, he passed through the east passage.
Q. What Island would that be?

Mr. Rieser: Same objection.

A. By the Strawberry Island.
Mr. Sawyer: Did you ever know of your father carrying lumber on this vessel?

Mr. Rieser: Same objection.

A. Yes.
Mr. Sawyer: Where would he usually get that?
A. Here.
Q. On the Menominee River?
A. Yes, on the Menominee River and also on the Cedar River.
Q. If he loaded on the Menominee River in those early days, which course would he take from the mouth of the Menominee river?

Mr. Rieser: Same objection.

A. He used to take the old course, sail across to Fish Creek Bluff, from here direct across to the old land mark.
Q. And then up through Strawberry Channel?
A. Yes, of course, if you wish to know the real course.
Q. And after going through the Strawberry Channel up the east channel, how would he go out into the lake?

Mr. Rieser: Same objection.

A. Through the Death Door.

[fol. 304] Mr. Sawyer: What can you say as to whether boats usually took that course?

Mr. Rieser: Same objection.

A. Going through the Door going south?

Mr Sawyer: If they were going from Menominee out through the Door, would they usually take that course or what course would they take?

Mr. Rieser: Same objection.

A. Most sailors that understood the safety of the east shore channel, would prefer that channel to the Chambers Island.

Mr. Sawyer: The custom changed somewhat, did it not, after the survey and charting of the lake?

Mr. Rieser: Object to the question as leading and suggestive and incompetent, irrelevant and immaterial, and no sufficient foundation laid, and relates to a time entirely different from that at which the boundary line was established, and it already appears in this record that the charting of the lake was completed prior to the time of the birth of this witness, and for that reason, his testimony would be based entirely upon hearsay.

Mr. Sawyer: You knew your grandfather,—your mother's father?

Mr. Rieser: Same objection.

A. Yes.

Mr. Sawyer: And what was his business?

A. Well, in the capacity that I knew my grandfather, in regard to any water affair, he was known and employed as guide for those people, and also directing as a common pilot, but not under registra-

[fol. 305] tion of any kind, not a registered pilot. I do know that he was used that way in my time regarding this affair.

Mr. Rieser: By that you mean as unregistered pilot or guide?

A. Yes.

Mr. Sawyer: For whom would he work in that capacity?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, and no sufficient foundation laid, and relates to a time entirely different from that at which the boundary line was established, and also calls for hearsay.

A. The capacity that he was used for in the traffic running to Cedar River and the locking of this whaleback reef, at the time they simply had a can bouy, which the sailors and mariners did not trust, and of course they knew my grandfather knew those land marks so plainly that to effect a safe passage, he was called upon, as I can remember myself in my time, for to make a safe passage, by strangers arriving here.

Q. Now, did you ever hear your grandfather talk about his early experiences as a pilot?
A. Many times.

Mr. Rieser: Same objection, and the fact that it is hearsay, and ask that the answer be stricken out for the reason that it is incompetent, irrelevant and immaterial and hearsay, and relates to a time other than that at which the boundary line was established and no sufficient foundation laid.

[fol. 306] Mr. Sawyer: When you started in sailing, or in your very early experiences sailing, did your grandfather ever tell you anything about the comparative safety of the channels in the Bay and where to go?

Mr. Rieser: Same objection, and for the further reason that the source of the information does not sufficiently qualify witness to testify as an expert upon the question asked.

Mr. Sawyer: You can say whether he did or not, by saying yes or no.
A. I wish to speak the truth in this matter.
Q. And if so, what did he say?

Mr. Rieser: Same objection.

A. We had a small sailing vessel here named "Schooner Rosebud," forty-four tons. We were boys, just the age of twenty-one and just procuring this vessel, and my grandfather did not feel that we were capable of transporting material, that is I believe shipping under risk on this sailing vessel with us younger boys on there, so he went with us and learning us these landmarks and channels which ever would be perfectly safe.

Mr. Sawyer: And what channels did he show you to go as the safest channels?

Mr. Rieser: Objected to for the reason it is leading and suggestive, it assumes something the witness has not testified to, and there is no sufficient foundation laid and incompetent, irrelevant and immaterial.

[fol. 307] A. Well, according to the winds that was used in the bay In going from here with a heavy south wind, my grandfather went to the channel that he always used most.

Mr. Sawyer: What was that?
A. That was crossing the Bay and East of Chambers Island and through Strawberry and past Eagle Bluff.
Q. And did he show you where to go after you passed up the East channel?

Mr. Rieser: Same objection.

A. Well yes, but you see the Government survey was out and we had studied and knew those crossings which we would use, but

many times my grandfather objected to those crossings and he would follow the land within half a mile of the shore.

Q. The east shore?

A. Yes the east shore.

Q. Did he show you what course to take to go out into the lake?

Mr. Rieser: Same objection.

A. Always the Death Door.

Mr. Sawyer: Did he tell you any dangers of coming west of Chambers Island?

Mr. Rieser: Same objection and furthermore, that it is based on hearsay.

A. Why my grandfather's simple reason was the safety of the cargo we had. Our vessel was always safe enough but on account of the cargo my grandfather always objected to going west of the [fol. 308] island, because it was very rough and he was afraid it would cause the loss of the cargo, and told us to practically always hug the mainland of the east shore, where harbors and anchorage was always readily accessible there.

Q. Did he even mention any of the dangers west of Chambers Island, and tell what they were?

Mr. Rieser: Same objection.

A. Well in the nature of stormy weather with the driving winds from behind, then landmarks would not be distinguishable, and no fog signals established yet here, so that we could not locate this harbor here.

Mr. Sawyer: You mean the Menominee Harbor?

A. The Menominee Harbor. So that in consequence we might go up onto Green Island or Peshtigo Reef by losing our bearings.

Q. He mentioned the Peshtigo Reef then did he?

Mr. Rieser: Same objection.

A. Yes.

Mr. Sawyer: Can you tell from your own knowledge where the Peshtigo reef lies?

A. It runs direct out from Peshtigo Harbor there in a southeasterly direction about three miles from shore.

Q. And you mentioned a little while ago the Whaleback Reef Where is that located?

A. That is located about twenty miles I should judge in a northeasterly direction about three miles from shore.

Q. And which way from the Door?

[fol. 309] A. Why about west, in a westerly direction.

Q. How long a reef is that?

A. It is in the neighborhood of a trifle over two miles long.

Q. When you first began to sail, was that under or out of water?

Mr. Rieser: Same objection.

A. It was submerged.
Mr. Sawyer: How much water was there over it?

Mr. Rieser: Same objection.

A. According to sounding four feet—that's high water mark.
Mr. Sawyer: Is it sometimes out of water now, parts of it?

Mr. Rieser: Same objection.

A. This time of year, the low water, it is out of water—during all of the winter, it is out of water.
Mr. Sawyer: You say you continued sailing up to about eight years ago?
A. Yes.
Q. What kind of vessels have you sailed in that time?
A. Well we sailed—when we started we had those small sailing vessels but later it increased to the size of the Schooner Aldrich, tonnage around one hundred and fifty tons, carrying in the neighborhood of eight or ten times what the little vessels would in water.
Q. I suppose they would draw deeper in the water?
A. Yes, they would draw deeper in the water.
[fol. 310] Q. From your experience on the bay, do you know what is the most dangerous channel, that east or west of Chambers Island?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and no sufficient foundation laid, and relates to a time other than that at which the boundary line was established.

A. Well in stormy weather, it is always at any time west of Chambers Island the roughest in the Bay.
Mr. Sawyer: How about the comparative safety—which is the safest in general—in stormy weather?

Mr. Rieser: Same objection.

A. For a sailing vessel, the east channel is the safest.
Mr. Sawyer: How about steamers?

Mr. Riesser: Same objection.

A. Also for steamers.
Mr. Sawyer: Have you ever known of a wreck in the east channel?

Mr. Rieser: Same objection.

A. No I have not.
Mr. Sawyer: Have you ever known of wrecks west of Chambers Island?

Mr. Rieser: Same objection.

A. Yes.
Mr. Sawyer: Have you ever had any experience in stormy weather west of Chambers Island that you can relate?

Mr. Rieser: Same objection.

[fol. 311] A. Yes, happening twice—Travers, Beidler & Co. cargo of cedar posts loaded at Ford River. A deck load of posts washed off the vessel during a northeast blow about four miles this side of Chambers Island.

Mr. Sawyer: Four miles west of Chambers?

A. This way—running southwesterly of Chambers Island.

Q. When you say "this side" that means west of Chambers Island?

Mr. Rieser: He said "Southwest."

Mr. Sawyer: If he said southwest, I withdraw that question.

Witness: It would not refer to west, because it would crowd the shore. It is southwest.

Mr. Sawyer: In your experience have you had occasion to go out into Lake Michigan very much from Green Bay?

A. For seven or eight years.

Q. Where have you usually gone outside of Green Bay, either carrying or getting cargoes?

A. Sheboygan, Michigan, and beyond Mackinac in Lake Huron and St. Martin Bay.

Q. What channel do you usually pass through in going out of or coming into Green Bay from Lake Michigan?

Mr. Rieser: Same objection.

A. The Death Door was our chief channel.

Mr. Sawyer: Can you tell from your experience on the boats on the lake and bay, what channel other boats usually took in passing out of or into Green Bay?

[fol. 312] Mr. Rieser: Same objection.

A. Why the Death Door, while sail vessels were in commission.

Mr. Sawyer: Sail vessels?

A. Yes.

Q. Well, how about other boats, steam boats?

Mr. Rieser: Same objection.

A. Well practically where a steamboat was going, they would use their handiest channel, but wherever was found a sailing vessel captain commanding a steamboat, he used the Death Door.

Mr. Sawyer: Now if a steamer was going from Green Bay, that is the villages at the head of the Bay, or any of the lower ports on Green Bay to Chicago or returning, which channel would it usually take?

A. Well, most of the time they would use the east shore channel when they did not use the ship channel at Sturgeon Bay.

Q. I mean what channel would they take between Green Bay and Lake Michigan?

Mr. Rieser: Same objection.

A. It would be the Death Door, of course.

Mr. Sawyer: Have you sailed many times from the Bay out to Mackinac?

A. Yes sir.

Q. What course did you usually take? You have already said that you usually go out of Death's Door?

A. Yes sir.

Q. If you didn't go out of Death's Door or come through Death's Door, what channel would you take?

A. In coming from Lake Michigan with an easterly wind, we [fol. 313] would always use the Poverty Passage.

Q. That is far north?

A. Yes, sir.

Q. Why would you do that?

Mr. Rieser: Same objection.

A. When it would be getting rough on the Lake with the wind blowing from the east, to get in the shelter of the bay coming this way.

Mr. Sawyer: If you should pass through the door on the way to Mackinac, what islands would you usually pass in your course?

Mr. Rieser: Same objection.

A. Our course would be on the east—northeasterly course, passing north of the North Fox and south of the Beaver Islands.

Q. What can you say as to whether or not that would be the most direct course between those two points?

Mr. Rieser: Same objection.

A. Almost perfectly the direct course, with safety to nearby islands all the way through, for the safety of the sailing vessel; that is, we call it harbor and anchorage, etc.

Mr. Sawyer: Do you know the distance between the City of Green Bay, at the head of Green Bay, and Death's Door?

A. Why always as we have, you know, recognized this here chart of the lake by the Government survey, which give us direct course, but in our own judgment of running, we always considered it [fol. 314] seventy-two or seventy-three miles.

Q. And what is the usual charted course from Green Bay to Detroit Island through Death's Door?

Mr. Rieser: Same objection.

A. As the Government charter and survey, which survey is taken from the tail point of Green Bay to this place, (indicating) about seventy miles.

Mr. Sawyer: And from Death's Door do you know how far it is to Mackinac?

A. Yes.

Q. How far?

A. From Death's Door to Machinac it is in the neighborhood of ninety-five miles. No, I made one mistake.

Q. Can you give the amounts from place to place?

A. From place to place?

Q. Yes?
A. According as we sailed?
Q. Say from Death's Door to a point on Beaver Island, how far?
A. About fifty-nine and a half miles.
Q. And then from the same point on Beaver Island, how far is it to Mackinac, in the course you mention?
A. It ought to be about eighteen miles long—twenty-six miles up the straits to Mackinac, that would be eighteen and twenty-six.
Q. That would be forty-four miles?
A. Yes.
Q. Then it would be fifty-nine miles plus forty-four miles from the Door to Mackinac?
A. Yes.
[fol. 315] Q. What can you say in rough numbers it being usually called ninety miles from Washington Island to Green Bay?

Mr. Rieser: Same objection.

A. Ninety miles in rough numbers.
Q. In rough numbers, yes?
A. From Washington Island to Green Bay?
Q. Yes?
A. When we are going into the direct harbor, harbor to harbor, that's the assumption that has been given.
Q. You start at Long Tail Point, which is ten miles out of Green Bay?
A. Yes, and our ending is Plum Island.
Q. When you said seventy miles, that was from Long Tail Point?
A. Yes.
Q. And if you went right into Green Bay, that was ten miles farther?
A Yes, ten miles to the mouth of the river.
Q. Now, when you used to use the small boats, such as you mentioned having used in your very earliest experience, state whether or not you went out far from the shore or whether you would usually hug the shore?

Mr. Riesser: Same objection, that it is incompetent, irrelevant and immaterial and no sufficient foundation laid and relates to a time other than that at which the boundary line was established.

A. As I have mentioned before that my grandfather, my mother's father, was with use and of course most of the times when the weather was stormy, he traveled his own course where we were going, [fol. 316] regardless of our objections and that that would be near the shore and into the safest channel it is now.
Mr. Sawyer: Do you know whether or not the other boats on the bay at that time used the same channel?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and no sufficient foundation laid, and relates to a time other than that at which the boundary line was established.

A. Boats started here by the Companies here, the Roper Lumber Company and people living here at Marinette, would always sail in company—they went wherever we went.

Mr. Sawyer: Do you remember of the wreck of the Steamer Hackler?

A. Yes sir.

Q. Where did that occur?

A. About I should judge, about east or southeasterly direction from Green Island.

Q. What channel would that be in as compared to Chambers Island?

A. That would be the East Channel.

Q. East or west channel of Chambers Island?

A. The East channel. That would be the East channel on the east shore of Green Bay.

Q. It occurred in the east channel of the east shore?

A. It would be in the middle of the Bay, but what is considered now by the big ore carriers east of Green Island.

Q. But I am asking you as to Chambers Island. What channel would it be as compared to Chambers Island?

[fol. 317] A. As a matter of fact you are no where near the Chambers Island.

Q. It is south of Chambers Island?

A. It is south of Chambers Island. Yes, and it is almost direct in the channel of the big ore boats.

Q. And where do they run?

A. They run east of Green Island.

Q. And which way from Chambers Island?

A. They come west of Chambers Island.

Q. Then it was in the channel of the boats that run west of Chambers Island?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, and no sufficient foundation laid, and relating to a time other than that at which the boundary line was established, and it assumes matters not in evidence.

A. Yes.

Mr. Sawyer: Do you remember of the time when Charles I Martin was lost on the bay?

A. Yes, we were crossing from Sturgeon Bay here.

Q. Were you on the tug that met him?

A. We were onto a sail vessel that plied here for lumber.

Mr. Rieser: When was that?

A. I should judge it was in the neighborhood of eighteen years ago, rough guessing, on the Schooner "J. C. McGill." Merriman's Mill was still shipping lumber and McGill's Schooner was the boat we came across in at the time Charlie Martin disappeared.

[fol. 318] Mr. Sawyer: What kind of a day was that?

A. That was a good kind of a day.

Q. Do you remember of his boat disappearing?

A. Yes. But the day before his boat disappeared, we were coming through Lake Michigan and never entered here until the afternoon, and sailing across the bay we had no bad weather of any kind.

Q. But you don't know what it was in the morning of that day?

A. No.

Q. That was about eighteen years ago?

A. Yes, I should judge about that time. We were on the Schooner McGill. We were sailors.

Q. That was a large schooner?

A. Yes, two hundred tons, something like that.

Q. Do you know how many generations of your family have lived in what we now call Door County on the East shore of the Bay?

A. Yes.

Q. I mean on your mother's side?

A. Yes, I have traced that up Mr. Sawyer.

Q. How many?

A. Well I figure these generations as far back as I could get to the honest facts by the white people—by the white people,—I didn't go by the Indian side of the story, except the stories where grandmother has told us,—who lived to be about one hundred and thirty years of age.

Q. Did you know her?

[fol. 319] A. Yes I did know her and speak to her. My great grandmother had fair understanding. That was my grandfather's mother. She did not speak the English language, with us. She had an interpreter, as we couldn't speak the language as she spoke it. It was always interpreted, but I judge that was the fourth generation. This mother was the great grandmother of this father—had lived there as far back as I could trace this name, according to the name the Indians gave to the white people when they came here.

Q Did she ever tell you anything about her understanding of when the white men first came into Green Bay?

A. Yes, it was her father that first shook hands with the first white man that came into Green Bay.

Q. What was his name?

A. His name by the elementary history of the state was Nicollett.

Q. Was there any discussion as to which shore of the bay he took?

Mr. Rieser: Objected to—same objection.

Mr. Sawyer: I guess I won't follow it. It is not very material here.

Q. That was your grandfather's mother?

A. Yes.

Q. It is on your mother's side in the Indian line?

A. Yes.

An adjournment was taken until to 2 P. M.

[fol. 320] At 2 P. M. of the same day, November 17, 1924, this cause again came on for hearing, and the following proceedings were had therein, to-wit:

THOMAS R. HASLEY, having been heretofore duly sworn and testified in this matter before Commissioner Elder, testified further on behalf of plaintiff as follows:

Direct examination by Mr. Sawyer:

Q. I show you a map marked "Plaintiff's Exhibit 174," and ask you whether or not you made that map since you were on the stand in this case the last time?

A. Yes, I made that map.

Q. From what did you make the map?

A. Government plats.

Q. Were they the Government plats which we had in evidence in the case when you were here?

A. I don't know whether I saw them when I was here or not.

Q. They are the large township plats of the government survey, except two of them at the head of the west branch of the Montreal River. They are exhibits introduced by defendant, and as to those two, they are exhibits introduced by plaintiff?

A. Yes.

Q. Will you state whether or not as to the courses of the rivers, the [fol. 321] location and the sizes of the lakes at the head of each branch of the Montreal River, and the dotted line marked as a trail, this is a correct map and a correct representation from those Government charts?

A. It is.

Q. Is it true also as to the land running from what we have named the east branch of the Montreal River over to Lac Vieux Desert and from there to the Brule Lake? In that country you did not fill in all the lakes did you, except just along the line?

A. No, I only filled in the ones along the line.

Q. Along what is marked as the boundary?

A. Yes this line (indicating on map Exhibit 174).

Q. I mean by that the boundary as marked by Wisconsin?

A. Yes.

Q. I believe on those plats from which you drew this map, the rivers were not named exactly as you have labeled them on this plat (referring to the Montreal River)?

A. No they are not.

Q. You named them on this plat in accordance with my instructions to represent plaintiff's claims as to the names of the rivers?

A. I did, yes.

Mr. Sawyer: I offer this as Plaintiff's Exhibit 174 to show the Plaintiff's claims as to the territory in dispute and as based on the Government survey of that region.

Mr. Rieser: To which the defendant objects as incompetent, irrevelant and immaterial.

[fol. 322] Cross-examination by Mr. Rieser.

Q. Mr. Hasley, as I understand you, the names "East Branch" and "West Branch" did not appear on the original township survey maps that you saw?

A. No.

Q. And on those township surveys that you saw, what you have now marked as the "East Branch," appeared on each and all of them wherever it appeared on the maps as the Montreal River, did it not?

A. That's my recollection, yes.

Q. And the red line, as I understand you, is to represent the line that is claimed by the State of Michigan?

A. By the State of Michigan.

Q. Were the names "Pardee Lake," "No Man's Lake," "Rock Lake" and "Lake Cheney" in the original township surveys?

A. It may be possible I got those names off another map.

Q. Do you know whether the names "Island Lake" and "Pine Lake" were on the original township surveys?

A. Island Lake was on the original.

Q. That was on the original?

A. Yes, that was on the original.

Q. Now as I understand you, the information so far as Township 43, Range 37 and Township 43, Range 38, and Township 48, Range 45, and Township 46, Range 46, and Township 47, Range 47, and Township 48, Range 48, and Township 48, Range 49 are concerned,—did you get that from township plats too?

A. Yes.

[fol. 323] Q. Now Mr. Hasley, calling your attention to Sheet 6, of Exhibit 197, which shows the Michigan side of Lac Vieux Desert, and page 8 of Exhibit 198,—you will notice that there are some islands in there that do not seem to appear in your Lac Vieux Desert map; just why are they omitted?

A. I didn't think they were of any importance.

Q. Do you know the boundary line as defined is between the south and the middle island—the middle of the channel?

A. Well, as a matter of fact, I didn't pay much attention to these islands here.

Q. Well, in order for this map to be a correct copy, your Exhibit 174, those islands would have to be shown, wouldn't they, on your map?

A. Well, it would be a correct copy——

Q. —of so much as is shown?

A. Yes.

Q. To be a correct copy of the whole of it, those islands would have to be shown?

A. Well, as I understood, when I was making that, the map would be correct enough for all practical purposes by leaving off those islands.

Q. But it would not show exactly, fully, Wisconsin's claim to that boundary line?

A. Perhaps that's true.

Q. Will you Mr. Hasley, then take the two sheets referred to of Exhibits 197 and 198, and draw into Plaintiff's Exhibit 174, the islands that are shown as being in Lac Vieux Desert?

[fol. 324] A. Yes I will do that.

Q. Then also Mr. Hasley, I call your attention to the fact that the trail marked by the dotted line on the Wisconsin line, on the boundary line as it is now claimed by Wisconsin, extends only to the Montreal River, and does not extend from the Montreal River to Lake Superior; and then in that same connection, I call your attention to page one of Exhibit 197, and show you the trail marked "Portage Trail" leading from the Montreal River to Lake Superior. That has also been omitted from the copy that you have made here Exhibit 174?

A. Yes, it apparently has.

Q. And will you also insert that?

A. Yes I will.

Q. Will you also identify it in the same way as it has been identified on that map?

A. Yes sir.

Q. That is all.

WILLIAM McDONALD, being duly sworn by John J. O'Hara, a notary public in and for the county of Menominee, State of Michigan, on his oath testified on behalf of the plaintiff as follows:

Direct examination by Mr. Sawyer.

Q. Your name is William McDonald?

A. Yes sir.

Q. Where is your home?

A. I haven't got any home just now.

Q. You are staying where?

A. I stop with my sister at Marrinette.

[fol. 325] Q. How long have you been stopping with your sister?

A. May be three years.

Q. Before that, where was your home?

A. Washington Island.

Q. And where were you born?

A. On Washington Island.

Q. How old are you?

A. I am sixty-five years old. I will be sixty-six the thirteenth of February.

Q. I take it your father lived on Washington Island?

A. Yes, sir.

Q. Do you know when your father went to Washington Island?

A. I don't know the year; I don't know at all.

Q. How old was he?

A. When he went to Washington Island?

Q. Yes?

A. Twenty-one years or twenty-two, not over that.

Q. He is dead now?
A. Yes.
Q. When did he die?
A. He was ninety-four years old when he died. He died here three or four years ago.
Q. That would make it he moved to Washington Island in 1834, would it not?
A. Yes sir.
Q. What was your father's occupation?
A. Fishing.
Q. All the time?
A. The last few years he was too old to work.
Q. But as long as he was able to work?
A. As long as he was able to work he was a fisherman.
Q. According to your figures, you were born in 1859. And you have a brother?
A. Yes.
Q. And where does he now live?
A. Washington Island.
[fol. 326] Q. Is he still fishing there?
A. Yes, that's the reason he didn't get up here; could not get away from his fishing.
Q. While you were on the Island, what was your business?
A. Fishing.
Q. How early did you begin?
A. Ten years.
Q. Began working with your fa
A. Working with my father in t cove.
Q. How was your fishing carri on?
A. In a boat; in a sail boat.
Q. Always in a sailboat?
A. Well, my father fished with a sailboat.
Q. And in your early fishing?
A. In our early fishing, we all fished with sailboats.
Q. According to that, you have been engaged in fishing since 1869 upon Washington Island until the last three or four years?
A. Yes.
Q. Do you go over to the Island yet?
A. Yes, I was over there all spring until the latter part of August. I fished there this spring.
Q. After you grew up, did you continue to fish with your father or have you fished sometimes, you yourself?
A. I fished with myself.
Q. In doing your fishing with sailboats, did you have occasion to go on all sides of Washington Island and through Death's Door?
A. Yes sir.
[fol. 327] Q. Would you have occasion to go into any other locality, such as Green Bay, or any other locations?
A. Yes, we have went into Green Bay. You mean Green Bay City?
Q. Yes?

A. My father used to sail up there with his sailboat to get his supplies for the winter.

Q. And did you ever go with him?

A. No, I was too young for that.

Q. You have seen him go?

A. Oh, yes.

Q. Do you know what channel he took from Washington Island?

A. Yes sir.

Q. What point in Washington Island would he usually start from?

A. On the west side of Washington Island.

Q. And which course would he take?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and no sufficient foundation laid and relates to a time other than that in which the boundary line was established.

Mr. Sawyer: You can answer which channel did he usually take going to Green Bay?

A. He took the channel along Fish Creek and Strawberry Harbor and through the Strawberry Passage.

Q. In your fishing, have you ever had occasion to go south in Green Bay to Washington Island?

A. I couldn't go very far south.

Q. South or west?

A. Yes, I fished west, or on the east side of the Whalesback Reef.

Q. State whether or not you have ever gone down to Green Bay in a sailboat?

[fol. 328] A. Yes sir.

Mr. Rieser: Same objection.

Mr. Sawyer: What course would you take?

Mr. Rieser: Same objection.

A. Along the land, because there was harbors there. We couldn't get in harbors on the other side.

By Mr. Sawyer:

Q. You couldn't get in harbors north of Chambers Island?

A. No, there was no harbors there.

Q. But on the southeast side of the Bay, you say there were harbors?

A. Yes, fine harbors.

Q. What can you say as to whether or not other boats would use that Eastern channel?

Mr. Rieser: Same objection.

A. That's the channel the other boats used, that's the channel.

Mr. Sawyer: When you first began going with your father, was there any Escanaba?

A. No sir.

Q. What was that location called then?
A. Sand Point.
Q. Was there any Sturgeon Bay?
A. There was a Sturgeon Bay, but no town. Washington Island was the County Seat of Door County.
Q. Were there any families living at what you say was called Sand Point then?
A. Well, there was then—there were two or three families of fishermen lived on the Beach,—on the shore.
Q. During your earliest life, when you were a small boy, what was the business generally of the inhabitants of Washington Island?
A. All fishing.
[fol. 329] Q. According to that, your general conversation would be regarding things along the lake?
A. Well, we fished during the summer season, season of navigation; after that, they cut fuel for the steamboats.
Q. Do you remember of hearing your father talk about early conditions there before you can remember?
A. Oh yes, I have.
Q. Have you ever heard him say as to where the boats generally run in passing from the lake into the bay, or vice versa?
A. Yes I have.
Q. What course did he say they took?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and no sufficient foundation laid and relates to a time other than that at which the boundary line was established.

A. They took the course up along through the Door and as I am telling you, Strawberry passage.
Mr. Sawyer: Do you remember of his telling you of the steamboats going through there, that you can remember?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and no sufficient foundation laid and relates to a time other than that at which the boundary line was established.

A. Yes I do.
Mr. Sawyer: Do you recall the name of the boat he mentioned?

Mr. Rieser: Same objection.

[fol. 330] A. Yes.
Q. What was it?
A. "The Michigan."
Q. Did he tell you where she usually ran when she passed the Island either way?
A. Yes, she came from Buffalo and went to Green Bay; that was the end of her route.
Q. In coming into the Bay from Buffalo, did he tell you where she ran?

Mr. Rieser: Same objection.

A. Yes, she came through the Door, and she came through Rock Island too.

Mr. Sawyer: Then in going to Green Bay, down through the Bay, what course would she take?

Mr. Rieser: Same objection.

A. She took the same course that we all took, along the shore there, because there were harbors, and our boats were smaller.

Q. And how would she return?

Mr. Rieser: Same objection.

Mr. Sawyer: What channel would she take going from the Bay out into the lake after returning from Green Bay?

Mr. Rieser: Same objection.

A. She took either channel, whichever was the most—generally took the Door.

Mr. Sawyer: She ran also to Chicago, did she not?

A. I couldn't tell you that, Mr. Sawyer.

Q. Do you remember seeing the "Michigan" yourself?

[fol. 331] A. No sir, that was before my time.

Q. Do you remember the name of the line in which the Michigan ran?

A. No, I don't know the name of that line.

Q. You say practically all of the people on the Island were fishermen?

A. Yes.

Q. Do you remember hearing your father and the neighbors discussing which way the boats run?

Mr. Rieser: Same objection.

A. Yes.

Mr. Sawyer: Do you remember the names of any of the families?

A. Yes.

Q. Can you give the names of any of them?

Mr. Rieser: Same objection.

A. Yes, I can give the name of Captain James Sanford.

Mr. Sawyer: He was on the bay for many years?

A. Yes, and is on the lake now.

Q. Any one else?

A. Yes, the Coffeys.

Q. The boys in that family are still on the lakes?

A. Well, I don't think they are sailing now, but their fathers were fishermen with my father.

Q. And you heard them in family and neighborhood discussions, discussing the traffic on the bay?

A. Yes, I have heard.

Q. From that discussion can you say what channel they generally used?

[fol. 332] Mr. Rieser: Objected to for the reason it is incompetent, irrelevant and immaterial, no sufficient foundation laid and relates to a time other than that in which the boundary line was established.

A. Yes, that's the channel they took. I don't believe they knew any other channel.

Q. You had better name it?

A. The Strawberry Passage.

Q. And which channel between the lake and the bay?

Mr. Rieser: Objected to for the reason it is incompetent, irrelevant and immaterial, no sufficient foundation laid, and relates to a time other than that in which the boundary line was established.

A. The Door.

Mr. Sawyer: How far back can you remember in your life as to your earliest recollections?

A. I can remember when I first commenced to fish, and I was ten years old then, and there is things I can remember before that, older than I.

Q. How long can you remember?

A. I think I can remember when I was five or six years old.

Q. What are the earliest boats you remember of seeing?

A. The earliest boats I remember are the Rocket and the Comet.

Q. Do you remember whether they are the same line the Michigan had been in, and whether they followed the Michigan?

[fol. 333] A. No I don't. I know the line they belong to.

Q. What line do they belong to?

A. The Union Steamboat Company. I can remember that.

Q. Where did they run, from what port to what port?

A. They came from Buffalo to Washington Island and took their fuel there and fished and went on to Green Bay.

Q. In going from Washington Island to Green Bay, do you know what course they took?

Mr. Rieser: Objected to for the reason it is incompetent, irrelevant and immaterial, no sufficient foundation laid and relates to a time other than that at which the boundary line was established.

A. Yes, I often sat on the beach and watched them.

Mr. Sawyer: What channel did they take?

Mr. Rieser: Same objection.

A. The same,—the Strawberry channel.

Mr. Sawyer: In going to Green Bay, did they take the same course?

Mr. Rieser: Same objection.

A. Yes sir.

Mr. Sawyer: What course did they take when they came back from Green Bay?

A. They usually took the Rock Island Passage.

Q. And went to Buffalo?
A. Went east.
Q. Did you know any boats coming in from Chicago?
A. Yes.
[fol. 334] Q. Which channel did they go through?

Mr. Rieser: Same objection.

A. They went through the Door.
Mr. Sawyer: All Chicago boats went the same way?

Mr. Rieser: Same objection.

A. All Chicago boats went the same way.
Mr. Sawyer: Which channel in the bay did they take?
A. They took the Strawberry Passage.
Q. You say you remember some things earlier than ten years old. Now how did you get anything that you wanted in the market at that time? How would it be brought to the Island?
A. It would be brought up by them Buffalo boats.
Q. Were there any other boats established? Were there any trading boats?
A. There were the small schooners.
Q. What is the earliest trading boat you remember other than those Buffalo boats?
A. I don't know. They were running before I came there.
Q. What was the first one you remember?
A. Well, there was the "Dart" belonged to Green Bay, buying fish and selling groceries and drygoods for John Day. And there was the "Morning Star" and the "Josephine Graham."
Q. And they would go where their headquarters were and what was their custom of trade?
A. They went along from port to port. They took fish in pay-
[fol. 335] ment for groceries.
Q. Do you remember any incident of your early life that recalls their coming to Washington Island?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and that the testimony relates to a time other than that at which the boundary line was established.

Mr. Sawyer: Now you may answer.
A. Yes I know we always looked for them to come and get our fish, so we could get some shoes and boots or a hat or something.
Q. And you heard your father tell about their coming before you remember?
A. Oh, yes.
Q. What was the nature of those boats, sailors or steamers—those first ones, trading boats?
A. The small ones were sail-boats.
Q. In the time as you first remember of, first when you remember of sailing on the bay, was there any harbor on the west shore?
(No answer.)

Q. In your earliest recollection, was there any harbor on the west shore of this bay at Menominee or Escanaba?

A. I heard of the harbor at Oconto. Green Bay was a harbor.

Q. In these days when lumber was loaded over here it had to be lightered out and loaded outside?

A. Yes sir.

[fol. 336] Q. Do you remember whether the Day Boat or the Graham boat would land in Detroit Harbor or were they too large for that?

A. No I don't say they were too large, but they did not land there.

Q. Detroit Harbor is on the southeast side of Washington Island?

A. Yes.

Q. And what can you say as to that being a safe harbor for small boats?

A. Oh yes, that would be a fine harbor for small boats.

Q. Did such boats as you used to use for fishing along the shore go in there?

A. Yes, and larger boats, carrying cordwood out of there and lumber out of there.

Q. They did carry out cordwood from there?

A. Yes.

Q. What can you say as to whether that was used as a harbor for refuge in case of storms?

A. Yes, sure it was.

Q. Did you know of a place called "Anchorage"?

A. Yes, between Pilot Island and Plum Island.

Q. Have you ever seen vessels anchored there in case of storm?

A. I have seen as high as fifteen vessels anchored there at a time.

Q. Was that considered a safe anchorage?

A. Yes.

[fol. 337] Q. Is there any such safe anchorage in Rock Island passage?

A. There's a pretty fair passage there too. No boats could go through there; there was a passage but no room for boats to go through.

Q. Was there any anchorage commonly used in the Rock Island Passage in those early days?

A. No sir.

Q. Now you speak of the Day trading boat, owned by John Day. Did that boat do any business other than trading around the Bay and the northern parts there?

A. No sir.

Q. Take it in the fall of the year, would she ever go to Chicago?

A. She would go to Chicago and fish in the fall.

Q. Where would she start from? If she was making a trip, where would she go from?

A. She would fish along through the Island and then out through the Door.

Q. Would she go to Green Bay?

A. Yes.

Q. And in that course, where would she go?

Mr. Rieser: Same objection.

A. She came right down through the Strawberry passage. There was harbors there and that's the reason they harbored there, she was safe.

Q. Did that custom continue until within your recollection?

Mr. Rieser: Same objection.

[fol. 338] Mr. Sawyer: Running that way while you can remember?

A. Oh later you know, they had to have ways of getting rid of their fish. They started to sell fish fresh you know. They got bigger boats and they didn't put up so many salt fish.

Q. In the early days they were all salted, were they?

A. Yes, in the early days they were all salted.

Q. Now you spoke of the Graham boat also. Did that come after the Day boat or was that the same time?

A. Along the same time.

Q. And what was its course through the bay and lake?

A. That was the same course—that Strawberry course.

Q. Now you spoke of having known the "Comet" and the "Rocket"?

A. Yes.

Q. I think you have already testified they ran to Green Bay?

A. Yes.

Q. Did you see what channel they took?

A. Yes I did.

Q. What was it?

A. Strawberry.

Q. Now besides the "Rocket" and the "Comet," and those trading boats of Graham and Day, what other boats were used on the lake in the earliest days of your recollection?

A. What other kind you mean?

Q. What other kind than those we have spoken of?

A. There were a few steamers and the rest was all sail boats.

[fol. 339] Q. How about Mackinaw? Was the Mackinaw boat in common use at that time?

A. Yes, that was a common fish boat at that time.

Q. They were all sailors were they?

A. Yes they were all sailors.

Q. How large sail boats would you see in those early days of your recollection?

A. Well, I don't know,—they weren't—oh, I should think they would take maybe fifty thousand, sixty thousand feet, something like that.

Q. Nothing like the large ships of today?

A. No, nothing like them.

Q. Well, what course did those boats take?

A. They went through Strawberry channel.

Q. And which channel into the lake?
A. Through the Door.
Q. You remember later years when larger boats came for lumber and came to Menominee?
A. Yes, I do.
Q. And if they were loaded with lumber, then what course would they take from Menominee out?

Mr. Rieser: Same objection.

A. They generally took the course just north of Chambers Island.
Q. And what channel would they go through into the lake?

Mr. Rieser: Same objection.

A. The Door.
[fol. 340] Mr. Sawyer: What is the earliest sailboat that you remember coming from Chicago and coming into the bay for lumber?

Mr. Rieser: Same objection.

A. Well, by gosh, the earliest one, I don't know. I remember once where I could only see one sailboat on Green Bay going for lumber.
Mr. Sawyer: Where did that boat go?

Mr. Rieser: Same objection.

A. She went to Flat Rock on Little Bay de Noc.
Q. That's on the northern part of Green Bay?

Mr. Rieser: Same objection.

A. Yes. That is north of Gladstone.

By Mr. Sawyer:

Q. That would be in the northern part of Green Bay?
A. Yes sir.
Q. What course did that boat take in coming from the lake into the bay, if you know?

Mr. Rieser: Same objection.

A. She came right through the Door, straight on up north along the islands, along where we lived. We lived right on the beach.

Mr. Sawyer:

Q. You saw her?
A. Sure I knew her.
Q. And what course did she take going back to Chicago?

Mr. Rieser: Same objection.

A. Just came right back the same course and went right out through the Door and went to Chicago.

[fol. 341] Mr. Sawyer: How was the lumber manufactured at Flat Rock in the early days?

A. Well, Mr. Sawyer, I don't know how it was manufactured, because I was never up to Flat Rock in those early days, but I heard the fishermen say there was a little water power band mill up there, where she got to running.

Q. Have you ever heard your father and neighbors talking about the boats that used Rock Island Passage in those early days, and which boats used that?

Mr. Rieser: Same objection.

Mr. Sawyer: Did the steamboats or other boats?

A. As far back as I have heard them tell about the "Michigan," she used either passage, Rock Island or the Door.

Q. And in discussing, did they talk generally as to where the boats usually ran?

Mr. Rieser: Same objection.

Mr. Sawyer: As to which channel the boats usually took?

Mr. Rieser: Same objection.

A. Well, as near as I understood it, they did not know much about any other passage but the Door.

Mr. Sawyer: But the Michigan sometimes did go thriugh Rock Island?

A. Oh yes.

Q. How about the "Comet" and the "Rocket"?

A. They went through the Islands.

Q. And how about the other boats?

A. They generally came through the Door.

[fol. 342] Mr. Sawyer: Do you know where the ruins of the old lighthouse on Plum Island are?

A. Well, yes, I saw them.

Q. Did you seen them when you were pretty young?

A. Oh yes, but I never saw the light when it was lighted. It was never running in my time.

Q. Have you ever heard your father and mother and the neighbors talk about it?

A. Yes.

Q. What would they say?

A. They would tell us about the light-house on the Island when they first came, and they would tell about the man that run that light, and if I ain't mistaken his name was Wriggins, but I never saw the man nor the light-house.

Q. Have you heard some talk or do you know of any other name that Washington Island was called before they called it Washington Island?

A. Yes, I have heard them talking about that and called it Potta-wat-a-mie Island.

Q. That was from the Potta-wat-a-mie Indians?

A. Yes.
Q. Did you ever know of the Potta-wat-a-mie living there?
A. Well I dug up a lot of them. I knew there were Indians there but I did not know what kind they were.
Q. Were there some Indians there when you were a boy?
A. Yes, there was.
Q. Were there any other Indians there besides Potta-wat-a-mie Indians?
[fol. 343] A. I understood that Rock Island was in that group.
Q. There was a group wasn't there?
A. Yes, and it took in Washington and Rock Island.
Q. And what others?
A. I don't know about what others, except Washington and Rock.
Q. Do you know whether Plum Island or Detroit Island were in?
A. No I don't.
Q. You know of the light that is located on Rock Island, that is called Potta-wat-a-mie Light?
A. Yes.
Q. Now from what you have seen and know of the location there, what would you say that light was there for?

Mr. Rieser: Objected to for the reason it is incompetent, irrelevant and immaterial, no sufficient foundation laid, and relates to a time other than that at which the boundary line was established.

A. Why I was always told it was there for the fishermen, in the early days for the fishermen.
Mr. Sawyer: In the early days, the fishermen lived on Rock Island, did they not?
A. Yes, a lot of them lived there.

Mr. Rieser: I ask that the answer be stricken out on the ground that it is hearsay.

Mr. Sawyer: On Rock Island, the shore where the lighthouse is, is very steep and rocky, isn't it?
A. Yes.
Q. So that if a fisherman's boat was driven on that Rock Island in the dark, it would be very dangerous, would it not?
[fol. 344] A. I think that would be the last of it.
Q. But on the easterly side of the Island, there is a good landing?
A. Yes.
Q. So that by the use of that light, they could protect themselves, is that not a fact?
A. Yes.
Q. Do you know of Whaleback Reef, where it is located?
A. Yes.
Q. Where is it located as compared to the Door or Chambers Island?
A. As compared to the Door or Chambers Island?
Q. Well, from the Door, where is it located?
A. About, I should judge, about Northwest or West-Nor-west.

Q. About how far?
A. Twelve or fifteen miles.
Q. Is that a dangerous reef?
A. Yes.
Q. What can you say as to whether that had any effect on the course of the early sail boats and steamers?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and not sufficient foundation laid and the witness not qualified to testify, and relates to a time other than that at which the boundary line was established.

A. I could not tell you Mr. Sawyer what effect that had on the early boats.
Q. Wasn't it because of dangers like that, that the boats always took the east channel?

[fol. 345] Mr. Rieser: Objected to as leading and suggestive.

A. Yes it was.
Mr. Sawyer: Is that reef marked now?
A. Yes sir.
Q. So that it can be avoided?
A. Yes, sir.
Q. In the early days was it submerged or above water?
A. It was submerged and no light on it.
Q. And how long a reef is it?
A. Oh, it is miles—I think a mile or three-fourths of a mile, something like that.
Q. Do you know whether the boats of the time when you first recall, were accustomed to use the channel south and west of Chambers Island at all?

Mr. Rieser: Same objection. In order that the record may show—that the record covers—no sufficient foundation laid, incompetent, irrelevant and immaterial and relates to a time other than that at which the boundary line was established.

(Question read): Do you know whether the boats of the time when you first recall, were accustomed to use the channel south and west of Chambers Island at all?

A. Yes I do. That's the channel they used.
Q. South and west of Chambers Island?
A. Yes, south——
Q. I mean supposing a boat was coming up from Green Bay, would it go west of Chambers Island?

Mr. Rieser: Same objection.

A. No.
[fol. 346] Mr. Sawyer: Why wouldn't they take the western channel?

Mr. Rieser: Same objection.

A. I don't know. They do now.
Mr. Sawyer: I know, but why would they not at earlier days?

Mr. Rieser: Same objection.

A. Because there was good harbors along that south shore and that's the reason they went there.
Q. In your fishing from Washington Island, did you ever have occasion to go out to the Fox or Manitou Islands?
A. No.
Q. Or the Beavers?
A. No.
Q. Have you ever been over there to those islands?
A. Yes.
Q. Have you ever been through to Mackinaw?
A. Mackinaw Island?
Q. Yes?
A. Yes sir.
Q. In going from Chambers Island to Mackinaw Island, what course would you take, by what islands?
A. By Washington.
Q. I say going from Washington over to Mackinaw?
A. What course would I take?
Q. Yes?
A. I would go right out to the north of Rock Island and straight on east.
Q. And which side of Fox Island would you pass?
[fol. 347] A. South of the South Fox.
Q. And then what? You wouldn't be very close to the Beavers then, would you?
A. No, I would be south of the Beavers.
Q. Do you know how far it is from Washington Island to Green Bay?
A. Well, it is ninety some miles.
Q. Do you know what course the boats usually took going from the Door or Washington Island toward Mackinaw?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial; no foundation laid and relates to a time other than that at which the boundary line was established.

A. Yes, any of them that wanted to go to Mackinaw, unless they came out of the bay.

By Mr. Sawyer:

Q. If they came out of the bay, what course would they take?
A. A good many of them takes the Sturgeon Bay Canal now.
Q. And before the canal was built?
A. They took the Door.
Q. What course would they take from the Door to Mackinaw?
A. They would go south and follow the east channel down to the Straits.

Q. Did you ever fish in the Manitou Islands?
A. Yes.
Q. How many times have you fished there?
A. I fished out of the South Manitou to falls.
Q. And have you been over there on other occasions?
A. Yes.
[fol. 348] Q. Frequently?
A. I made a trip across there a year ago last summer for fruit, and we stopped at the South Manitou over night.
Q. But in your fishing around Manitou Island, you could tell the course boats took going to Manitou?
A. Yes.
Q. While you were in business on Washington Island the latter part of the time, were you engaged with your brother?
A. I was engaged with my brother and with my father and with myself, and I had boats of my own.
Q. And your brother is still there?
A. My brother has boats there. Is still there now.
Q. With what points on the mainland were you most accustomed to do your business?
A. Green Bay city.
Q. And now where?
A. Escanaba.
Q. How long have you been in the habit of doing business with Escanaba?
A. It is quite a few years.
Q. Can you tell about how many?
A. Twenty-five years or more.
Q. And does your brother do the same?
A. Yes, he is doing that today.
Q. What is the nature of the business you do with Escanaba?
A. He takes his fish there and he takes farm produce from the farmers across there. He has a boat he runs across. He takes farm [fol. 349] produce, cattle, potatoes, chickens and fruit.
Q. And does he take anything in return?
A. Yes, he takes groceries for the stores and for themselves and for other parties, and he takes gasoline and anything he can get hold of.
Q. How far is it from Washington Island to Escanaba?
A. Twenty-eight miles.
Q. How far is it from Washington Island to Sturgeon Bay?
A. Fifty miles.
Q. Is Sturgeon Bay the nearest railroad point on the Wisconsin land to Washington Island?
A. Yes, that's the nearest railroad to Washington Island.
Q. And I think you said it was ninety miles from Washington Island to Green Bay?
A. Yes sir.
Q. Is there any other advantages in the Escanaba markets than the nearness?
A. Yes, you can get there a good deal quicker and a better market.
Q. In what way?

A. Ready sale for anything you take to it. In fact, you can take back the cash for anything you have got.

Q. Escanaba is a great railroad center with railroads connecting your market and the Iron Ranges?

A. Yes.

Q. And the Soo Line east and west?

A. Yes.

[fol. 350] Q. Is there any passenger traffic between Washington Island and Escanaba?

A. Yes, my brother takes passengers.

Q. To what extent?

A. He carries a great many of them.

Q. What kind of boats does he usually run in his trade between Washington Island and Escanaba?

A. He has a steamboat and a gas yacht.

Q. You mentioned a while ago a small sail boat that went from Green Bay to Flat Rock and took lumber. Were there any large boats in those days coming into the bay?

Q. No sir, that's the only boat, and we would see her maybe once a month.

Q. Do you remember the names of steamboats that came into the bay shortly after that?

A. Oh, a good many of them I do.

Q. Can you name any of them?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial.

A. There wasn't very many boats came into the bay until Escanaba got started. Then I remember the boats.

Mr. Sawyer:

Q. Do you remember the "Truesdale"?

A. Oh yes.

Q. And the "Lady Franklin?"

A. Yes.

Q. Where did those boats come from?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial.

[fol. 351] A. They came from Chicago.

Q. They were early boats on the lake?

A. Yes. I remember them running. Those two boats, they were running when I was a small boy.

Q. Did they run to Green Bay?

A. Yes they ran to Green Bay.

Q. And what course did they take coming from Chicago to Green Bay?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, no sufficient foundation laid and relates to a time other than that at which the boundary line was established.

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Q. While you were in business on Washington Island the latter part of the time, were you engaged with your brother?
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A. Yes they ran to Green Bay.

Q. And what course did they take coming from Chicago to Green Bay?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, no sufficient foundation laid and relates to a time other than that at which the boundary line was established.

A. The Door.

By Mr. Sawyer:

Q. And after coming through the Door, what course did they take?

Mr. Rieser: Same objection.

A. They went then through to Escanaba. Before Escanaba started, they turned around from Washington Island and went back by the Strawberry passage to Green Bay.

Mr. Sawyer: Do you know where the Goodrich boats run when they got that far up?

A. Yes.

Q. Which channel in the bay did they take?

A. I have made many a trip for the Goodrich boats and I always went up by Fish Creek and Sister Bay and the Strawberry Passage.

Q. That is through the Strawberry Passage?

A. Yes.

[fol. 352] Do you know which channel they took from the Bay into the lake before the going was good?

A. They took the Door.

Q. They are a pretty large line are they not?

A. Yes, they are the largest passenger boat we ever had on the bay.

Q. Do you know whether the fishermen on Washington Island ever have any trouble because of the uncertainty of the boundary line through the bay?

A. Yes sir.

Q. Which would be the best for the fishermen of Washington Island, to have Rock Island or the Door as the boundary?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, and the witness not qualified to testify.

A. They would be way ahead by having Washington Island belong to Michigan.

Mr. Rieser: That's one reason why you are particularly interested in this controversy?

A. I am interested in it, yes.

Mr. Sawyer: Isn't it a fact that there is considerable difference between the laws of Michigan and Wisconsin in regard to the size of the mesh in the nets that the fishermen can use?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and witness not qualified to testify.

A. Yes.

[fol. 353] Mr. Sawyer: Wisconsin laws use a smaller mesh, do they not?

A. Yes.

Q. What result that have on the fish in the bay?

Mr. Rieser: Same objection.

A. The fish that are put in the water, the small fry that are put in the water, just as quick as they are eight or ten inches long, they are

caught here by Wisconsin with those small nets, and the fishermen down that way don't get any.

Mr. Sawyer: By "down that way" you mean Washington Island?

Mr. Rieser: Same objection.

A. Yes.

Mr. Sawyer: Has it resulted in the moving of fishermen further north?

Mr. Rieser: Same objection.

A. Yes.

Mr. Sawyer: Why?

Mr. Rieser: Same objection.

A. They get better fish and more of them.

Mr. Sawyer: I think that's all.

Cross-examination by Mr. Rieser:

Q. You would say that in the days of your earliest recollection, that most of the traffic out of Green Bay, was still heading toward Mackinaw and the lower lakes, wouldn't you?

A. Yes, the majority of it.

[fol. 354] Q. Now what was the size of the boat in tons, that would carry from 50,000 to 60,000 feet of lumber? What would be the tonnage capacity? I am trying to find out the tonnage capacity, if you know.

A. Well, I don't know.

Q. Have you any idea what it would be?

A. Well I should think, well sixty or eighty thousand, them boats.

Q. That is sixty or eighty thousand feet?

A. Feet of lumber.

Q. But you can't tell the tonnage?

A. I have no idea.

Q. Have you any idea what it might be?

A. No.

Q. And those ships when they came for lumber, would go to Green Bay loaded with merchandise?

A. There wasn't very many of them came for lumber, about the time I am trying to tell about. That was too early.

Q. Yes, that was too early?

A. Yes.

Q. The lumber trade developed later on?

A. Yes later on.

Q. Now, it is a fact, isn't it, that so far as the trading is concerned, that the mail is brought from Washington Island through Sturgeon Bay?

A. The mail is brought from Washington Island from Ellison's Bay.

Q. Yes, and then from Ellison's Bay sent to Sturgeon Bay?

[fol. 355] A. Yes, but it crosses the Door in a boat.

Q. And the summer traffic, which has become quite a traffic on the Island, most all the people that come to the Island come from Ellison's Bay by boat?

A. Oh no.

Q. Wouldn't the majority of them come that way?

A. Well, some of them.

Q. Will you say that the majority did not come?

A. Well, about half. They come from all quarters.

Q. But I mean the traffic that comes from the mainland as between Escanaba and Ellison's Bay. The majority of that traffic comes from Ellison's Bay?

A. Yes it did.

Q. That same mail boat carries automobiles right over to Washington Harbor?

A. No, she don't.

Q. There is a ferry there that carries the automobiles?

A. Yes there is a ferry that carries the automobiles.

Q. And that ferry carries most of the dairy products from the creamery down to Ellison Bay?

A. No. There is a boat that runs direct from the Island to Green Bay that carries the fish and products.

Q. What about dairy products, butter, etc.?

A. That comes the same way.

Q. You say all of that goes the same way?

A. Yes.

[fol. 356] Q. In your earliest recollection, Ellison's Bay and Sister Bay and other little points along the East shore of Door County were not settled were they?

A. Well, there were people living there.

Q. But they were not centers or trading centers?

A. No.

Q. And the boats you have referred to as the "Dart" and the "Morning Star" and the "Joseph E. Graham" were trading in a little later period?

A. There was little boats trading before I was there.

Q. Was there any fishing done in that region, in what is known as the Strawberry Channel or in its vicinity?

A. Oh yes.

Q. And those boats would be used to pick up fish, etc?

A. Yes, they would pick up fish.

Q. Now, what is the size or the tonnage capacity of the boat that you were speaking of running or being on?

A. That I was fishing on?

Q. Yes?

A. Oh, that was a small thirty foot.

Q. That would have less than a ton capacity?

A. Oh, it would carry more than a ton.

Q. Well, would it carry up to ten tons?

A. No, it would not carry only up to about three or four tons.

Q. And that's about the average size of the early fish boats?

A. That was about the size of the boats from the Island and the fish boats.

[fol. 357] Q. And those boats would move around in Green Bay as they were attending to their nets?

A. That's about the only way we had to get around in going to market. We had to take our sail boats. You know there was no railroad.

Q. Except as larger boats came and stopped at Washington Island?

A. Yes, when they came, they depended on them vessels. They would each man take his boat and go to Green Bay.

Q. And you say your father came to Washington Island about 1848 or 1849?

A. Yes I do.

Q. And the fishing boats would not be operating on the bay very much after dark? They generally took to port after dark?

A. Sometimes I have been out all night.

Q. But that's a rare occasion?

A. Pretty often, they would get caught out in fogs and calmed.

Q. But if you were caught in a fog, you tried to get to port, and do not spend much time out in these fish boats?

A. No, unless we have to.

Q. Washington Harbor has always been the principal harbor on Washington Island, hasn't it?

A. Yes sir.

Q. And that is on the northwesterly side of Washington Island?

A. Yes.

[fol. 358] Q. In which direction from Washington Harbor did you live when you were a boy?

A. Southwest from Washington Harbor. I lived in the center of the Island on the west side, facing east. Lived right on the shore and our house stands there yet.

Mr. Rieser: I think that's all.

Redirect examination by Mr. Sawyer:

Q. Washington Harbor—when you say it is the principal harbor, you mean it is a large and deep harbor?

A. Yes, it is a safe harbor in everything but a Northeast wind.

Q. Northeast wind?

A. Yes.

Q. How about Northwest?

A. Oh, it is good in Northwest wind.

Q. Safe in everything but a Northeast wind?

A. Yes.

Q. Where did you get your heaviest storms from?

A. Northwest.

Q. Northwest?

A. Well, we got some awful storms from the Northeast but not very many of them.

Q. How about Detroit Harbor?

A. Any boat drawing five or six feet of water can go through there perfectly safe.

Q. The boats that you can remember, were perfectly safe in Detroit Harbor, and accustomed to going into Detroit Harbor?

[fol. 359] Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and the witness not qualified to testify.

A. Yes.

Mr. Sawyer: You were perfectly safe there?

Mr. Rieser: Same objection.

A. Yes.

Mr. Sawyer: Were they accustomed to going in there?

A. There wasn't so much fishing there and that is why they did not come in there.

Q. What was there besides the fishing traffic?

A. The fishing traffic and cordwood—the steamboats for that—the boats, you will remember, used to burn wood.

Q. As a matter of fact, when the Goodrich boat used to come up from Chicago, if she went up and went into Washington Harbor, which channel would she go into, into the bay?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and no sufficient foundation laid, and the witness not qualified to testify, and relates to a time other than that which the boundary line was established.

A. Through the Door.

[fol. 360] Q. Did the other Chicago boats do the same?

Mr. Rieser: Same objection.

A. Yes, and they are doing it to-day.

Mr. Rieser: Same objection, and ask that the answer be stricken out.

Mr. Sawyer: You say the mail is taken through the Door from Washington Island to the mainland?

A. Taken across Detroit Harbor to Ellison's yes.

Q. Is Detroit Harbor postoffice used for the mail?

A. Yes.

Q. And the mail goes in there?

A. Yes.

Mr. Sawyer: That is all.

Mr. Rieser: That is all.

An adjournment was taken to November 18th, 1924, at 9:30 A. M. at the offices of Mr. Sawyer.

Pursuant to adjournment the taking of further testimony on behalf of plaintiff was resumed this 18th day of November, 1924, at 9:30 o'clock A. M., at the offices of Mr. A. L. Sawyer, Menominee, Michigan, plaintiff and defendant being respectively represented by counsel heretofore mentioned.

[fol. 361] The plaintiff, to sustain the issues upon its part, offered the following evidence, to-wit:

ALFRED HENES, being duly sworn by George Barstow, a notary public in and for Menominee County and judge of the Municipal Court in Menominee, Michigan, testified as follows:

Direct examination by Mr. Sawyer:

Q. You reside here in Menominee, Michigan?
A. I do.
Q. And have all your life?
A. I have.
Q. If you do not object, you may state your age?
A. Forty-eight years.
Q. What is your occupation or business?
A. It is varied—manufacturer.
Q. To what extent have you had experience in running boats on Green Bay and Lake Michigan? State generally and for how long.
A. I have sailed various boats. Sailed and motored considerably over thirty years now.
Q. Are you familiar with the conditions and channels of Green Bay for boating purposes?
A. I am.
Q. What can you say as to the comparative safety of rather small sailing craft, as between the channels east and west of Chambers Island?

[fol. 362] Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, and no foundation laid, and witness not qualified to answer.

A. I can only tell about my experience. I think if I look back in my life, I would find that out of one hundred trips, I would find ninety-eight or ninety-nine that I have started from here across to Fish Creek or Egg Harbor, across from here, and then went either north or south for the reason I had plenty of sea room, and if I had any party aboard, I had plenty of harbor there, whereas if I went to the west of Chambers Island, I had a reef to contend with north of Chambers Island and the West coast of Green Bay, there are sand bars running out in many places two miles and there is no safe harbor along there except Cedar River.
Q. You mean north of Menominee?
A. Yes, north of Menominee, and that is quite a hard harbor to enter.
Q. What kind of boats have you run on the bay?
A. I started in as a youngster, eleven or twelve years old with a row-boat with a sail.

Q. How far out would you venture with that kind of a boat?

A. Just around the harbor here, not any great distance with that.

Q. Then after you got to running in boats that were large enough to cross the bay, which boat would you take?

A. After that I had a 30 ft. Naptha engine.

Q. How large sail boats have you used?

[fol. 363] A. After that I had a yawl rigged sail boat, 37 feet long over all. That was the main part of the boat, 37 feet.

Q. What next do you remember?

A. After that I didn't have any for about two or three years, then my brothers and myself bought the present boat, the "Dorothy" 37 feet motor boat.

Q. How many times would you estimate that you have gone across the bay and up and down the east channel with a sail boat?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, and no foundation laid, and witness not qualified to answer.

A. I must have gone there at least—pretty hard to say on the spur of the moment,—I think I must have made that trip with my boat and my friends at least a hundred times.

Q. Did you ever experience in going through Strawberry passage any difficulty with a sailboat?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and no foundation laid, and a sail boat is not the guide or criterion on which to establish the efficiency of the channel.

A. I have never had any trouble.

Mr. Sawyer: What can you say as to whether other small craft are accustomed to taking the same course that you took?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, [fol. 364] no sufficient foundation laid, and a time different from that at which the boundary line was established, and the question directed toward a type of craft entirely different from that contemplated by the issue in this case.

A. I have always considered it a very safe channel, because in case of any storm of any kind, you had many harbors to run to. I have sailed sail boats through the islands and motored through with my boats and have had friends motoring through, and I have never heard of anybody having any difficulty in getting through there.

Mr. Sawyer: And you have met other boats in that course?

Mr. Rieser: Objected to as leading and for the other reasons before stated.

A. I have met a great many boats through there. In fact, I consider most of the yachting boats from Chicago and Milwaukee take that course through there. That's where I meet most of them.

Mr. Sawyer: In your moving about on the bay have you been accustomed to go out into Lake Michigan?

A. I have more or less, yes.

Q. What channel did you usually take going from the Bay out into Lake Michigan?

A. Unless I am going south,—if I go south, I go through Sturgeon Bay. If I go to cross Lake Michigan or to Mackinaw, I usually go to the head of Fish Creek Bluff and then go north through the Strawberry Channel.

[fol. 365] Q. And what course out into the lake?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, no sufficient foundation laid, and a time different from that at which the boundary line was established.

A. I usually take the Death's Door passage to Pilot Island out into the Lake, unless with the sail boat, depending upon the wind, where I get the most protection.

Mr. Sawyer: If you go out through Death's Door going to or beyond Mackinaw, what course is the most common to take?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and relates to a time other than that at which the boundary line was established, and no sufficient foundation laid, and relates to an entirely different type of craft than contemplated by the proceedings in this case.

Mr. Sawyer: From the Door to Mackinaw that would mean, what course would you usually take?

A. I have made it both ways.

Q. In reference to the Islands, between the two; which side of which islands would you go generally?

Mr. Rieser: Same objection.

A. Depends upon the way the weather conditions are. I usually either go right directly across the lake or go north.

Mr. Sawyer: As to the Fox and Beaver Islands, which side of [fol. 366] either would you go the most, if you go that way?

A. I say it depends on the wind there. I go right across to the Fox many times, and many times I go north of the Island.

Q. When you say North, do you mean north of Beaver or Fox, which?

Mr. Rieser: Same objection.

A. North of Beaver.

Cross-examination by Mr. Rieser:

Q. Your experience, Mr. Henes, has been entirely with pleasure boats on the lake?

A. Yes.

Q. And the tonnage capacity of those boats in most instances has been practically nil as far as trading capacity is concerned?

A. They were for pleasure, but I have made the trip on bigger boats, on steamers, many times.

Q. The boats of that kind, of course, that you made your trips in are peculiarly subject, of course, to rough or choppy weather, to swamping, etc.?

Mr. Sawyer: I want to interpose an objection as the nature of the question infers that he has limited his trips to small boats, while he has said he has been through in larger steamers.

Question read as follows: The boats of that kind, of course, that [fol. 367] you made your trips in are pecularily subject, of course, to rough or choppy weather, to swamping, etc.?

A. The "Ramona", the boat I had, I would take her out in any sea. I was never afraid to take her out in any sea that came along.

Q. By that do you mean to compare her to any large boat on the lake?

A. I would not compare that boat with the great big freighters of today.

Q. Or with the one hundred ton freighters of the old days, would you?

A. I think she would go through. She was a heavily well built boat, built by Conley of Green Bay, and I was told that that boat——

Mr. Rieser: We don't want anything that you were told, just your own experience. Would you say that you would put her up against any 100 ton sail boat that has been navigating these lakes or the waters of Green Bay and have her stand up?

A. I have never had a moment's fear in any big storm that I was out in. I can substantiate that by the folks that were with me. In fact, I took her down to Green Bay from Sturgeon Bay, and out of boats two or three times her size, the "Ramona" was the only boat that followed the Perry Fleet down there in that storm.

Redirect examination by Mr. Sawyer.

Q. You mentioned that you had been through the course you described on larger steamboats, what ones do you refer to?

[fol 368] Mr. Rieser: Objected to as incompetent, irrelevant and immaterial.

A. I went there on the Goodrich line many years ago and also on the "Ann Arbor."

Mr. Sawyer: Do you know whether the Goodrich Line,—what course it takes now through the bay? when it goes north from Oconto?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, no sufficient foundation laid, and a time different from that at which the boundary line was established.

A. You mean the present time or the past years?

Mr. Sawyer: Well now, and for the past few years.

A. Well, just now I could not say. I understood that they went as far as Washington Island and laid there over night. I remember

at the time I went there taking a picture of Pilot Island as I went through, with my camera.

Q. As to the channels in the bay, does she usually take the channel east or west of Chambers Island?

Mr. Rieser: Same objection.

A. She takes the channel through the Strawberries east.

Mr. Sawyer: Did you ever travel on any of the Hart boats or Hill boats in the bay?

Mr. Rieser: Same objection.

A. I don't remember whether I did.

Redirect examination by Mr. Rieser:

Q. Do you mean to say Mr. Henes, that the Goodrich boats take [fol. 369] the Strawberry Channel because they are afraid to take the channel west of Chambers Island?

A. No.

Q. That is not the reason they take it; isn't that true? The reason they take that channel is because they trade in the little harbors along the way and take on passengers and leave them there?

A. They have many small harbors to make that way.

Mr. Rieser: That is all.

Mr. Sawyer: That is all.

An adjournment was taken to 1:30 P. M. at this point.

At 1:30 P. M. at Menominee, Michigan, November 18, 1924, pursuant to adjournment, the taking of further testimony on behalf of plaintiff was resumed at the offices of Mr. A. L. Sawyer, plaintiff and defendant being respectively represented by counsel heretofore mentioned.

Dr. E. V. McComb, being duly sworn by E. J. Ellenwood, a notary public in and for Menominee County, Michigan, on his oath testified on behalf of the plaintiff, as follows:

Direct examination by Mr. Sawyer:

Q. Doctor, your residence is here in Menominee?

A. Yes.

[fol. 370] Q. How long have you resided here?

A. Seventeen years.

Q. Will you state something as to the extent of your going upon the waters of Green Bay and Lake Michigan and how long you have been going there?

A. Pleasure outing and boating in various small boats during every summer for those seventeen years.

Q. You are the owner of the Yacht "Betty" at the present time, are you?

A. Yes.

Q. In your travels about the bay, have you familarized yourself with the channels east and west of Chambers Island and from the bay out into the lake?

A. Yes.

Q. How large a boat is the yacht "Betty"?

A. Forty feet long.

Q. For boats of that size or smaller or even a little larger, what would you say was the safest channel, the one east or west of Chambers Island?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, no sufficient foundation laid, and relates to a time other than that at which the boundary line was established, and the witness not qualified to testify.

A. The east channel is the usual preference.

Q. Can you say why?

Mr. Rieser: Objected to for the same reason.

[fol. 371] A. Because it is well marked, because the waters are all deep, because the inner buoy line marks are prominent and easily located and the harbors are frequent and near at hand.

Q. Natural harbors?

A. Natural harbors.

Q. In starting, you usually start from Menominee, do you not?

A. Yes sir.

Q. And if you were going out into Lake Michigan, what would be your usual course?

Mr. Rieser: Same objection.

A. Usually through the Death's Door or the Rock Island passage, depending on our destination.

Mr. Sawyer: I meant first from Menominee through the bay?

A. The shortest course is the one usually taken through Chambers Island unless the weather is heavy.

Q. If the weather is heavy you take the Strawberry channel?

A. Yes sir.

Q. And if you were going from here as nearly direct to Mackinaw as you could go, what channel would you take from the bay into the lake?

A. Rock Island Passage is shorter.

Q. If you were going up the East Channel through the bay what channel would you take out into the lake?

A. Death's Door.

Q. If you were moving up and down the bay from or to Green Bay, to points North of Menominee, in the northern part of the [fol. 372] Bay or Lake, which channel in the bay would you naturally take, and which do you take generally?

Mr. Rieser: Same objection.

A. The East channel.

Mr. Sawyer: And in such a case, if you were going out into the lake which channel would you take?

Mr. Rieser: Same objection.

A. Depends on the destination.

Mr. Sawyer: If you were going to Chicago or Mackinaw, which would you take?

Mr. Rieser: Same objection.

A. To Chicago, you would take Death's Door passage and Mackinaw Rock Island, weather permitting.

Mr. Sawyer: Supposing the winds were not favorable to Rock Island, would you take Death's Door? Would there be any such conditions?

Mr. Rieser: Same objection.

A. No, I can't think of any.

Mr. Sawyer: You know of the harbors on Washington Island, I suppose. What do you know about the Detroit Harbor as to its safety and as to whether it is often used by small boats and such as yours?

Mr. Rieser: Same objection.

A. Detroit Harbor is difficult to gain access to until this year, when lights have been installed; but once within, a complete protection is afforded.

[fol. 373] Mr. Sawyer: Do you know anything about what is called the anchorage on Pilot Island?

A. I have seen it on the charts, but never had occasion to use it.

Q. You were with Commissioner Elder and the attorneys in this case while taking testimony at Detroit Harbor on Washington Island the past summer, were you not?

A. Yes.

Q. They were using your boat?

A. Yes.

Q. Will you state the experience you had with that boat in returning home and which channel was taken, and why?

Mr. Rieser: Object to that testimony for the reason it is self-serving; that it was under the direction of an interested party, who took charge in the manning of the boat, and it is incompetent, irrelevant and immaterial, and that it is an imposition upon the duty of the Commission, is a fraud upon the court, and I shall press that point, Mr. Sawyer.

Mr. Sawyer: All right, I am not afraid of it at all.

Mr. Sawyer: Will you state the course we took and the conditions as to the Bay and the experience?

A. You mean on the return trip?

Q. On the return trip?

A. Leaving Detroit Harbor——

Q. About what time?

[fol. 374] A. I don't remember—three o'clock or thereabouts.

Mr. Sawyer: In the afternoon, we will say.

Witness, continuing: Across Death's Door, headed south, into the east channel, going into a moderate southerly increasing wind, arrived at Ephraim, and due to the increasing force of the winds, remained there over night. Next morning, a gale blowing still from southerly direction, waited until afternoon, and then your Honor, Judge Elder and his secretary, proceeded down the east shore to Sturgeon Bay; hesitated about making the passage across the Bay because of the strength of the wind, as this would put us in the trough of the sea and away from land a couple of miles. Early next morning left Sturgeon Bay and returned to Menominee.

Q. On that day that you went down to Sturgeon Bay and started crossing to Menominee, where was the rough section of the bay, as to the channels east or west of Chambers Island?

A. West.

Cross-examination by Mr. Rieser:

Q. Doctor, your entire experience has been with pleasure boats?

A. Yes.

Q. And your testimony is limited to pleasure boats, I understand?

A. Yes.

Q. What would be the capacity of the Yacht "Betty" expressed in tons, we will say?

[fol. 375] A. Ten to twelve tons.

Q. As compared with a sail boat what would you say as to the launch being more dangerous or less dangerous to land upon a rough sea?

A. You mean of equal size?

Q. Yes, of equal size?

A. Awfully hard to answer, because it all depends on the rig and the character of the sailboat.

Q. Sail boats which are built for crossing heavy waters or large waters, could be built so they would be a good deal safer than the Yacht "Betty" would be?

A. Absolutely.

Q. That is if they were built for heavy waters or large waters?

A. Yes certainly.

Mr. Rieser: That is all, Doctor.

Mr. Sawyer: That is all, Doctor.

At this point the further hearing of evidence in this cause was adjourned subject to the convenience of the counsel and the Commissioner.

[fol. 376] Pursuant to stipulation entered into by counsel for plaintiff and defendant above mentioned, the taking of further testi-

mony in the foregoing entitled cause was continued on the 9th day of March, 1925, at Madison, Wisconsin, at the Capitol Building, before Mrs. Margaret M. Hoit, of Superior, Wisconsin, Special Commissioner appointed by said court in said cause.

APPEARANCES

Meredith P. Sawyer, Esq., of Menominee, Mich., and Carl D. Mosier, Esq., of Lansing, Michigan, Special Counsel for plaintiff.

Robert M. Rieser, Esq., of Madison, Wisconsin, Special Counsel for defendant.

The plaintiff, to sustain the issues upon its part, offered the following evidence, to-wit:

MEREDITH P. SAWYER, being duly sworn, on his oath testified on behalf of plaintiff as follows:

Direct examination by Mr. Mosier:

Q. Please state your residence, age and occupation.

A. Residence, Menominee, Michigan; age, thirty-four, occupation, attorney.

Q. What, if any, has been your experience in outdoor life in the woods and on the waters in the region of Menominee?

[fol. 377] A. I lived here all my life and since I was old enough to get around, have spent a great deal of time each season on the lakes and rivers, cruising, hunting and fishing. I have worked on several survey parties during the years I was in the University, have made three canoe trips the entire length of the Menominee river system and several shorter trips. During the summers of four or five seasons I made weekly trips around the Bay, both on sailboats and motor boats. I have myself sailed four large sailing yachts, "Vanity," "Ramona," "Nevarre" and "Lena Delta," and operated two large motor cruisers, "Rosata" 56 feet long and "Betty" 40 feet long, besides which I have cruised on the "Dorothy" 65 feet long, and "Zenia" 90 feet long, covering all waters of Green Bay repeatedly, as well as trips into Lake Michigan, Lake Huron and Georgian Bay. Beyond this I have frequently gone to the drive camps when Menominee River was being driven and have seen the men at work on the drive.

Q. Did you take part with Engineers Burridge and Rupp, in the survey of the Menominee River, for the Michigan-Wisconsin Boundary Commission, and if so, what part did you take?

A. I accompanied them on foot over the lower end of the Menominee river, and by canoe from Quinnesec Falls down to the power dam at Ingalls, so that I accompanied them on their entire survey [fol. 378] of the Menominee River from Quinnesec Falls down.

Q. You joined in their report to the Commission, which has been produced as Plaintiff's Exhibit 171?

A. Yes.

Q. What do you say as to whether that report is correct so far as it goes?

Mr. Rieser: At this point the defendant objects to the question on the ground and for the reason that it calls for a conclusion of the witness; no sufficient foundation laid, and it was in an investigation of conditions at a time different than that at which the boundary line was established, and the witness not qualified to testify.

A. Yes, it is.

Q. In the engineer's report to the Michigan-Wisconsin Boundary Commission, on page 2, you designate one point as "No Speak"; can you locate that more definitely?

A. That is a whirlpool above the old Pemene Dam. The dam is located about five miles above Pemene Falls, and slightly above the township lines.

Q. On the same page of the report, Pemene Falls is mentioned as a point in the Menominee river. Can and will you locate that point in accordance with the surveys of both the Michigan and Wisconsin sides of the river?

[fol. 379] A. Pemene Falls is intersected by the south line of Sec. 16, Township 37 north, Range 28 West, Michigan, and by the south line of Section 8, Township 36 North, Range 22 East of Wisconsin.

Q. Can you tell how far it is by river from Pemene Falls to the Big Quinnesec Falls?

A. It would be from 21 to 22 miles by river.

Q. In the report, on pages 2 and 3, mention is made of your investigation which showed that Grand Island was on the Wisconsin side of the main channel. Will you please locate Grand Island in connection with the Wisconsin survey?

A. It is surveyed as a part of Section 18, Township 37 north, Range 22 east, Wisconsin.

Q. In looking at the charts of the government survey of either Michigan or Wisconsin, can you point out any other islands between Grand Island and the Pemene Falls, and if so, what is their relation as to the main channel and what is their location as to the surveys referred to?

A. There is an island opposite Lot 2, Section 9, Township 37 North, Range 28 West, Michigan, which is also shown on the Wisconsin charts as opposite Lot 1, Sec. 8, Township 36 North, Range 22 East, the Wisconsin survey showing it, named it "Rock Island." This island is not shown as being surveyed in either state, but is well on the Michigan side of the main channel of the river. There is another island about half a mile long intersected by the quarter line [fol. 380] of section 16, Township 37 North, Range 28 West, Michigan, and intersected by the quarter line of Section 8, Township 36 North, Range 22 East, Wisconsin. This island is less than half a mile above Pemene Falls and is on the Michigan side of the main channel and is not surveyed in either state.

Q. Can you tell whether or not, either or both of these islands are so located as to be important in connection with water powers that may be developed at Pemene Falls?

Mr. Rieser: Objected to, the witness not qualified to answer, incompetent, irrelevant and immaterial and no sufficient foundation laid.

A. Unquestionably both of them would be flooded in case of the construction of a dam for power purposes. The location of the main channel of the river as it now exists with reference to these islands, will also be important in connection with the taxation of river improvements that may be made.

Mr. Rieser: Move that the answer be stricken out on the ground and for the reason that the witness is not qualified, no sufficient foundation laid, and the answer incompetent, irrelevant and immaterial to the issues in this case.

[fol. 381] Q. Can you tell from the charts of the government surveys on the Wisconsin side of the river, as offered in evidence, what government description of the Wisconsin survey is opposite these islands, and if so, do so?

A. Only one of these islands is shown on the charts of the Wisconsin government township survey as the island opposite Lot 2, Section 31, Michigan, and it would be intersected by the westerly range line in the Wisconsin survey of Township 36 North, Range 22 east. It is shown as surveyed in the state of Wisconsin by metes and bounds in that chart, part of it being surveyed as a portion of the Southwest quarter of the Southwest quarter of Section 19, in that township and range, and a portion of it being surveyed as Lot 1, Section 24, Township 36 North, Range 21 east. The Michigan charts indicate the island but do not give the metes and bounds on any survey of it. The island opposite Lot 3 in the Michigan survey is not shown on the Wisconsin charts. It shows on the Michigan chart, but does not indicate having been surveyed as a portion of the description of Michigan.

Q. On page 4 of the report, you refer to Miscauno Island. Will you locate that with reference to the plats of government survey in both Michigan and Wisconsin?

[fol. 382] A. The Island referred to as Miscauno Island is the more westerly of the two islands, in a bend in the river, which is opposite Lot 2, Section 36, Township 37 North, Range 29 West, Michigan, and which is surveyed as part of Sections 23, 24, and 25 and 26 of Township 36, North, Range 21 East, Wisconsin. It is not surveyed in connection with the Michigan survey. Both of these surveys of the river only show two islands in that bend, while as a matter of fact there are three islands there.

Q. Did you and Messrs. Burridge and Rupp make careful observations as to whether or not changes in the channels since the survey could have caused the additional island and if so what were the conditions and the conclusion?

Mr. Rieser: Objected to for the reason that it is incompetent, irrelevant and immaterial, no sufficient foundation laid, witness not qualified to testify and the testimony relating to a time other than

that at which the boundary line was established, and in view of the testimony of the experts as to the particular condition in the river at the time of the investigation.

A. The timber on the island showed that they were of long existence, at least one hundred years, and there was no indication of any change in the channel of the river. The main body of the river passes to the west of the large island Miscauno. The cut to the East of the Miscauno is divided by the other two islands and there [fol. 383] is a broad shallow cut made by the river at one time cutting across this short bend. In dry seasons it can be walked across and was in that condition when we examined it, while the channel westerly of the Miscauno Island carried practically the entire volume of water and was very deep and swift. It is also apparent that the islands were formed by this overflow cutting across the curve in time of high water, and that at all times the main channel of the river has followed the outer line of the curve, which is to the west of the island and on the Wisconsin side thereof.

Mr. Rieser: I move that the answer be stricken out for the reason it is incompetent, irrelevant and immaterial, calls for conclusion of the witness on a matter on which he is not qualified to testify, and the testimony is incompetent, irrelvant and immaterial.

Q. From your experience on rivers and running canoes, can you say as to where you will usually find the main channel of a river as respects a bend or curve?

A. The water in the river will tend to continue in a straight direction until deflected by a high bank and almost universally the main channel of a river in a curve is on the outer portion of the curve or bend.

Q. On page 5 of the report, you make mention of a small island which is below Miscauno Island. Will you locate that as to one or the other of the government surveys?

A. That island is opposite Lot 1, Section 36, Township 37 North, Range 29 West, Michigan. It is not shown on the Wisconsin survey. [fol. 384] It does not appear to have been surveyed in connection with either survey.

Q. On page 5 of that report, you make mention of Waite Island as being opposite Section 17, Township 36 North, Range 28 West, Michigan. Have you anything to say as to that description?

A. There are two islands between Miscauno and Merryman islands. These are shown on the Michigan survey as opposite Section 6 and 17, of Township 36 North, Range 28 West. These are shown on the Wisconsin survey and are surveyed as Lots 5, 6 and 7 of Section 11, Township 35, North, Range 22 East, of Wisconsin, and as a part of Lot 2, Section 2, of said township and range. Obviously the islands are improperly located on one or the other of the maps, and not knowing that at the time of the survey, we did not tie them in to any government monument, and I cannot locate them exactly according to either survey. They do not appear to have been included in the Michigan survey, but are shown on

the chart thereof. The islands shown as surveyed in Wisconsin do not exist in the size and shape and location there shown. The most northerly of these islands is known as Waite Island and is on the Michigan side of the main channel.

Q. On page 6 of the report, mention is made of a small rocky island about 200 yards below certain other islands on the Michigan side of the main channel, and said to be cut off from the Michigan shore by a channel not to exceed 20 feet in width. Does that island [fol. 385] appear to have been surveyed in connection with the surveys of either state?

A. No.

Q. On page 6 of the report you mention a long, narrow island on the Wisconsin side of the main channel and describe the Michigan channel as being 250 feet in width, and the Wisconsin only 150 feet in width. Can you locate that island as to either government survey?

A. It is most southerly of the two islands referred to. It is surveyed in Wisconsin as Section 11, Township 35 North, Range 22 East, Wisconsin, and is distinctly on the Wisconsin side of the main channel.

Q. At the bottom of page 6 of the report, reference is made to Merryman Island. Please give its location with reference to the survey of each state.

A. It is surveyed as a part of Sections 20 and 29, Township 34 North Range 28 West, Michigan. It is also surveyed as a part of Sections 18 and 19, Township 35, North, Range 22 East, in the state of Wisconsin. It is interesting to note that according to the charts, the island is made to extend way beyond the limits of those sections in Wisconsin. On the face of the Wisconsin chart the survey of this island in Wisconsin is marked "Cancelled, see notes."

Q. Are there any notes on the chart of the Wisconsin survey showing as to whether or not the survey of that island was made in connection with the original government survey of Wisconsin [fol. 386] in that region, and as to whether or not that survey still stands?

A. A notation on the chart by Warner Lewis, Surveyor General, is to the effect that this island was surveyed by Richard L. Hall, July 22, 1854, which is several years after the original government survey. Then a further notation by Thomas J. Townsend, Surveyor General, is to the effect that that survey was cancelled in 1862.

Q. On page 7 of the report, reference is made to a small island below White Rapids, on the Wisconsin side of the channel. Can you locate that island with reference to the chart of the Wisconsin survey?

A. It is given as Lot 12, Section 36, Township 35 North, Range 21 East, Wisconsin.

Q. On the same page your report says that below this lie what are known as Sixty Islands, and that inspection shows them to consist of 17 islands at the present time. Appended to the report

and connected therewith is a blue print of those islands showing the islands as numbered from 1 to 17. Will you compare that diagram with the government survey of those islands, if the government survey included them, and identify the islands in the blue print in so far as you can with the islands in the government survey?

A. The government survey of Wisconsin did survey this group of islands, numbering them lots 4 to 14 inclusive, of Section 36, Township 35 North, Range 21 East. Their position on the govern- [fol. 387] ment chart is somewhat similar to their present position as shown by the chart of the engineers, and the main channel of the river, according to the government chart, would pass between Lots 11 and 12 and 13 and 14, leaving 13 and 14 on the Michigan side of the main channel. It thence swings to the west bank, leaving lots 7, 8, 9 and 10 of the Wisconsin survey on the Michigan side of the channel. It then swings again eastward, putting lots 4 and 5 on the Wisconsin side of the main channel and leaving 6 on the Michigan side of the main channel. It is impossible to exactly correlate the government lots with the island numbers on the chart, except as follows:

Lots 11 and 12 are undoubtedly the same as islands number 4 and 3 respectively, Number 13 has evidently been split and is now islands 1 and 5 on the engineer's chart, and Lot No. 14 corresponds to Island No. 2 on said chart. In the group containing Lots 7, 8, 9 and 10, the condition has greatly changed. This group now form islands 6, 7, 8, 9, 10, 11, 12 and 13, on the engineer's chart. Lot 4 evidently corresponds to Island 14 and No. 5 has been split into Islands 15 and 17; Lot 6 corresponds to Island No. 16. We did not have this chart of the government survey at that time showing the location of these islands, but with the splits in the islands which I have referred to, they tally almost exactly, although there have been many minor changes as to the channel through these [fol. 388] islands. It was very easy to determine what is and what had been at all times the main channel, and it is as represented on the said engineer's chart. There has been no diversion of the channel by the Boom Company for driving purposes, due to the fact that the river here is very flat and during driving stages there was plenty of water in all channels to move the timber, and it was only necessary to keep a crew on hand to roll the logs off the islands when they grounded. Opposite Island 5, stands the old camp of the Boom Company, where the men were kept there for this purpose.

Mr. Rieser: Move that the answer be stricken out for the reason it is incompetent, irrelevant and immaterial, and no sufficient foundation laid for the testimony, no basis for conclusion that the conditions found at the time of the investigation were the same as at the time the boundary line was established, and in view of the answer itself, it is incompetent, irrelevant and immaterial.

Q. At the bottom of page 9 of the report, reference is made to an island about three miles, by river, below the Sixty Island group.

which the report locates as with reference to the Michigan survey, which is on the Wisconsin side of the main channel. Will you please locate it with reference to the Wisconsin survey and state whether or not it is included therein.

[fol. 389] A. It is surveyed as part of Lot 5, of Section 10, and Lot 4 of Section 3, Township 34 North, Range 21 East, in Wisconsin.

Q. On page 10 of the report, mention is made of an island opposite the Southwest quarter of the Southwest quarter of Section 14, Township 35, North, Range 29 West, Michigan, containing about one acre and it is reported that the same is on the Michigan side of the main channel. Will you state whether or not that island is included in the government survey of either state, and if so, which and its description in such survey?

A. It is shown on the government survey of Wisconsin, as opposite Lot 1 of Section 14 and 5 of Section 23, Township 35 North, Range 21 East.

Q. At the top of page 11 of the report, mention is made of an island below the mouth of the Shakey Creek, opposite Section 25, Township 35 North, Range 29 West, Michigan, will you state whether or not that island is included in either survey and if so how it is described?

A. That is surveyed as part of Section 23, Township 34 North, Range 21 east, Wisconsin, and is a part of Wisconsin.

Q. In the second paragraph, on page 11 of the report, mention is made of Sawyer Island as containing about four acres, and being located opposite Lot 3, Section 3, Township 34 North, Range 29 West in Michigan. Will you state whether or not that is contained [fol. 390] in the survey for either state and if so which, and what its description is?

A. It is surveyed as Lot 5, Section 33, Township 34 North, Range 21 east and Lot 5 and Lot 7, Section 2, Township 33 North, Range 21 east, Wisconsin survey. It is occupied by the owner of Lot 3, Section 3, Michigan, and has been so occupied for many years, and is distinctly on the Michigan side of the main channel.

Q. In the engineers' report, in the last paragraph of page 11, mention is made of Baker Island as being opposite Lot 4, Section 10, Township 34, North, Range 28 West, Michigan, containing about 10 acres, and being on the Wisconsin side of the main channel. Will you state whether or not it is mentioned in the survey for either state, and if not, its relationship to the Wisconsin survey?

A. It is not surveyed in either state and it lies opposite Lot 1, of Section 8, Township 33 North, Range 22 east, Wisconsin survey. It is shown on the chart of the survey but not included in the survey.

Q. On page 12 of the engineers' report, mention is made of the two small islands opposite section 36, Township 35 North, Range 28 West, Michigan, and said to be on the Michigan side of the main channel. Please state whether or not they are both on the plats of the survey or either state, or included in either survey, and if so, which?

[fol. 391] A. They are shown on the plats of the survey of Michigan, but not in Wisconsin. They are not surveyed in either state.

Q. On page 12 of said Engineers' report, reference is made to the dam of the M. & M. Light & Traction Company at Grand Rapids. Will you please locate that point according to the government survey?

A. One end of the dam is in Section five, Township 35 North, Range 27 West, Michigan, the other end in Section 32, Township 34 North, Range 23 East, Wisconsin.

Q. On page 13 of the Report, mention is made of an Island below the dam of the M. & M. Light & Traction Company, as being and always having been on the Michigan side of the main channel and in sight of the Wallace bridge. Will you please locate this island with reference to its connection with government surveys, if surveyed?

A. It lies opposite Section 16, Township 34 North, Range 27 West, Michigan, and is surveyed in the Wisconsin survey as Lots 4 of Section 8 and 5 of Section 17, Township 33 North, Range 23 East.

Q. Will you please locate, if you can, the Wallace bridge referred to in that report as compared with the government survey?

A. The Wallace bridge is an interstate bridge across the Menominee, approximately one-fourth of a mile north of the south line of Section 20, Township 34, North, Range 27 West, of the Michigan survey.

[fol. 392] Q. On page 13 of the engineers' report, mention is made of an island below the Wallace bridge, known as "Long Island." Will you please state whether this is shown on either survey and describe the same in connection with either survey?

A. It is shown on the charts of both surveys, but is not surveyed in Michigan, and is surveyed as Lot 4, of Section 30, and Lot 2 of Section 36, Township 33 North, Range 23 East, Wisconsin. This island is very clearly on the Michigan side of the main channel, as are also the Twin Islands, located just below this Island, which are shown on the Michigan chart but not included in the Michigan survey, but are surveyed in Wisconsin, and described as Lots 5 and 7 of Section 1, Township 32 North, Range 22 East, for the upper island, and Lots 4 of Section 1, and 5 of Section 12, in said township and range for the lower island, in the Wisconsin survey. These islands are likewise very clearly on the Michigan side of the main channel, and always had been so. The larger island contains 63.22 acres and the smaller island 30.72 acres.

Q. Are there any persons living on any of the islands of the Menominee river already referred to in your testimony?

A. No, there is no one actually living on any of the islands. As stated in the report, Merryman Island had a large Club House belonging to the Four Seasons Club of Chicago. This Club House [fol. 393] burned in 1922 but has been rebuilt. Waite Island is used by Camping parties; Sawyer Island near the Ox Bow has been plowed, hay being cut from it every year since I can remember.

On Baker's Island there is a small log shack which is being used by hunters.

Q. On page 14 of the engineers' report, mention is made of an island used by the Railroad Company, and surveyed as lot 7 in connection with the Wisconsin survey. Please state generally the location of that island as to the surveys of the two states and the main channel of the Menominee river.

A. The charts for either state do not give this island as lot 7, merely including Islands No. 5 and 6 lying farther to the Wisconsin shore. The map of the City of Marinette gives it as lot 7 and it was evidently surveyed at a later date as a part of Wisconsin. It lies opposite to Lot 1, of Section 1, Township 30 North, Range 23 East, Wisconsin, and opposite Lot 1, of Section 4, Township 31 North, Range 27 West, Michigan. It is well to the Michigan side of the main channel and not included in the Michigan survey.

Q. On the same page 14 of the engineers' report, mention is made of an island known as "Monument Island" and formerly occupied as the sight of the N. Ludington Company Sawmill. Can and will you connect that up with the government survey for Wisconsin?

[fol. 394] A. It is Lot 6 of Section 1, Township 30 North, Range 23 East.

Q. Regarding the Montreal river, please state whether or not you had any part in any of the investigation regarding the Montreal River, and if so what?

A. I went with the engineers and Mr. A. L. Sawyer and Attorney General Dougherty, in the summer of 1923, I believe in August, to the forks of the Montreal River where the main river divides into the east and west branches, walked down the main river and up both branches a short distance, and viewed the forks from each direction, and also the general contour of the country. The west branch seems to be the main channel. The east branch departs from the main direction of the stream at practically a right angle and from the general contour of the country, the east branch appears to come from a small valley off the main valley of the river system. I think there is no question that a canoe going up this stream with an idea of following the main channel, would follow the west branch, the east branch being apparently no more than a large tributary.

Mr. Rieser: Objected to as not being responsive to the question, and the witness not qualified to testify, and no sufficient foundation laid and the testimony relating to a time other than that at which the boundary line was established, and the witness not qualified. So far as the answer being not responsive I recall that.

[fol. 395] Q. Did you have anything to do with any part of the investigation that took in the Brule river, or any of its branches, and if so, what?

A. On the same trip we drove along the land portion of the boundary and crossed the Brule river at a point a short distance below Lake Brule, and we followed and crossed the course of the creek which flows into the Brule river, a short distance below Lake

Brule, which creek rises in a beaver bog some twelve or fourteen miles to the west of the lower end of Lake Brule.

Q. From your experience on Green Bay, can you state what have been the usual courses of ship traffic during the last twenty-five or thirty years, and if so, state the same in detail, referring to the different classes of ships.

A. The local or Bay steamers have had scheduled routes as far back as I can remember, leaving Green Bay, they passed the east shore of Sturgeon Bay, from Sturgeon Bay they crossed the Bay to Menominee, thence returning back across the Bay to Egg Harbor and passing up the east shore to Fish Creek, thence through Strawberry Passage to Ephraim, thence to Sister Bay, Ellison Bay, Detroit Harbor, Washington Harbor, and from there crossing the Bay to Escanaba and returning by the same route. The Chicago boats north bound, would enter the bay through the Sturgeon Bay canal, cross to Menominee, return to Egg Harbor and pass through Strawberry Island Passage, calling at Fish Creek, Sister Bay and Ellison [fol. 396] Bay. In the early days they went to Detroit Harbor, but since the lowering of the lake level has made it impossible for the large boats to enter that harbor, they either passed up Washington Island entirely, going south through the Door, or land in Washington Harbor and go out through Rock Island Passage. The south bound boats usually did not enter the bay, but when they did, they took the same course in a reverse direction.

At the present time, the Chicago boats coming in to Green Bay from the north, signal Washington Island and do not land, and any person desiring to get on the boat, is taken off in a small boat and reshipped at sea.

The other shipping consisted largely of lumber freighters, which went out from Menominee through the Sturgeon Bay canal if bound south, or through the Door if bound East. The coal boats coming from the east would enter the bay through the Door and proceed directly across to Menominee, or down through the Strawberry Passage if bound for Green Bay. The ore boats from Escanaba and the coal boats returning to Escanaba pass out through the St. Martin's passage or Rock Island Passage, or Death's Door, depending upon the wind and their destination, their usual passage being through St. Martin's if bound east or through the Door if bound south.

[fol. 397] Q. Referring to the journal of Dr. Houghton's travels in 1839, which has been offered in evidence, where Mr. Houghton refers to stopping on a sand point on Chambers Island, can you tell from the geography of that country, where it was that he stopped?

A. Yes, there is only one sand point on the island that is a portion of Chambers Island shoal, which is out of water. This shoal extends from the southeast corner of the island almost due east, the shoal extends almost two miles. The steamer referred to in the journal as passing down through Green Bay must have passed through the Strawberry passage, otherwise it would not have been visible from this point until it had passed the island and Mr. Houghton's men could not have boarded the steamer. The island which

Mr. Houghton refers to as having later landed on, is now known as Hat Island.

Mr. Rieser: Move that this answer be stricken out as the witness not qualified to testify as to conditions existing in 1925 to explain actions and circumstances of 1840-1841; no sufficient foundation laid and the witness not qualified.

Q. From the character of the soil of Chambers Island can you tell whether or not there is any material change, or whether or not there could have, at any time, been another Sand Point on this Island?

A. Mr. Houghton refers to a sand point from the southerly end of the island. It is shown on all charts as a part of a long shoal extend-
[fol. 398] ing to the east. The other points on Chambers Island are rocky and nearly all of them drop into deep water or extend into rocky reefs. It is very evident that there never was any sand point on Chambers Island, except the one at the location named.

Mr. Rieser: Object to that and ask that the answer be stricken out, and for the reason that the witness is not qualified, no foundation laid and assuming conditions which are not in existence and are not in the evidence, and assuming facts which are neither a part of this record, nor any evidence which has been offered in this case.

Q. From your acquaintance with the situation at the island, can you say on what portion of the island the old shipbuilding yards were situated, and where the early boats landed, and if so, state in detail?

A. The shipyards and landing were on the northerly end of the east side of the island and were between the lake which is in the north end of the island and the bay. The bay on the north end of the island is good protection from southerly winds, but is very shoal and could not be used by large vessels. There is good water up to the landing on the east side commonly used by all vessels where the docks are located, and which with the shores affords protection from all directions.

Q. Can you state the comparative advantages and disadvantages of navigation in the channels east and west of Chambers Island, and if so, do so?

[fol. 399] A. The channel to the west of Chambers Island is a broad wide open channel. It is unprotected from northeasterly blows and is the most dangerous section of the bay. The westerly coast of this channel is shoal for nearly a mile from the beach, the shore being low lying and having no land marks and no harbors. This passage is also made precarious by the fact that in laying a course from this channel to Washington Island, the whaleback shoal is directly in the course and must be avoided by a considerable detour. The channel to the east of Chambers Island is more narrow and in fact the only channel there used is the one known as Strawberry passage, which passes up close to the east shore. This channel is well protected during the heavy northeast gales which prevail in this district. The shores are very bold and the waters very deep, the channel is many miles wide with the exception of the short passage between the Big

Strawberry Island and the main land. This passage is very short and about a mile in width. It is well marked by natural land marks and has no hidden reefs in the channel. This course has the advantage of laying close to a high shore along which there are good harbors not over three or four miles apart and being protected from the worst storms.

I have navigated from Sturgeon Bay to Detroit Harbor on a very black night and been able to locate myself by the sky line of the [fol. 400] eastern shore at all times, and so doing passed through Strawberry Channel without difficulty. I have taken this course on both sailboats and motor boats several times and have passed up the Strawberry channel on a sailboat in the dark with heavy wind. In sailing on the Bay, we always felt that once in the channel east of Chambers Island, we are free to travel up and down the east shore, but that we must watch the weather before making the passage from Chambers Island to Menominee, that being a dangerous portion of the Bay where many wrecks occurred and where we have had experience with heavy seas. Many times we have waited at points on the east channel for favorable weather to make the crossing to the Menominee shore, sometimes waiting for several days. During the present season when going with the Commissioner for the purpose of taking testimony at Washington Island, on our return encountering heavy weather, we passed down the east shore across Death's Door and through the Strawberry channel to Sturgeon Bay, but at Sturgeon Bay had to await normal weather before crossing to Menominee.

Q. From your experience what can you say as to the comparative advantages and disadvantages of navigation through Death's Door and Rock Island passages?

Mr. Rieser: Same objection.

A. Death's Door is the narrower of the two channels and lies between Plum Island and the Door County Peninsula, the *the* passage [fol. 401] is free of reefs and has good water close up to both the island and mainland, with the exception of a reef extending easterly from the end of the peninsula which carries 12 feet of water. The width of the Door is 1⅜ miles in the clear and this passage is protected from the north by Washington Island and Detroit Island, and there is very good anchorage in lee of these islands for all northerly gales. The entrance to Detroit Harbor is right back of Plum Island and Detroit Harbor is perfect protection from all winds and was a much favored harbor until recent lowering of lake levels made it unapproachable for boats of eight feet draft. The eastern entrance to the Door is just south of Pilot Island, a small island with good water close to shore with no reefs, which, as its name indicates, was used in the early day by the sailors as a marker to the passage. Death's Door is now perfectly lighted and further protected by a Coast Guard Station; this year there were over two hundred calls at this station at the time we were there with the Commissioner.

Rock Island Passage while much wider than Death's Door, is broken by St. Martin's shoal which lies just north of the center of the passage, carrying only 7 ft. of water, at present actually less than

6 feet. To the easterly of this island is also the 9 ft. shoal and several others. The entrance to this passage from the east is also made hazardous by Fish Island shoal and Fisherman's shoal. Fish [fol. 402] Island formerly consisted of about twenty boulders above the water about two miles directly east of Rock Island surrounded by shoal water extending nearly a mile north and south. Fishermen's shoal is about a mile farther south and is very similar except that some of it was not out of water until recently. Until these shoals were properly lighted, it was extremely hazardous to approach this passage from the east and this would not be done except by persons well acquainted with the territory and then only in clear weather. The Rock Island light is not visible from the east or any course approaching Rock Island passage from south of due east, and therefore could only be used as a beacon to guide into this passage for boats approaching from north of east. I have several times approached this passage in the night on the course from Charlevoix and Fox Island, and have been unable to see the light until well within the passage, directly abeam of the light house. At this time it is possible to make this approach because of the lights on Poverty Island and Fishermen's shoal, but the regular Island light alone would have been of no value to a boat on a course from either the Fox Island or the Manitou Island prior to the establishment of the Fishermen's Shoal and Poverty Island Lights.

Mr. Rieser: Move that the answer be stricken out for the reason [fol. 403] the witness not qualified to answer, calling for conclusion of the witness, assuming facts not in the record, and because the testimony is on conditions at a time other than that at which the boundary was established and on evidence not in the record, and is inconsistent with the positive testimony of the witnesses offered by the plaintiff in this case, and assumes the existence of facts inconsistent with those offered by the plaintiff in the trial of this action.

Q. What do you know about the old light house on Plum Island?

A. I visited the old light house on Plum Island and took pictures of it. It is forty or fifty paces from the easterly range line on Plum Island and was evidently located as a beacon to guide vessels through this passage; the old lighthouse would have been visible in all directions except to the west and northwest.

Mr. Rieser: I move that this answer be stricken out on the ground and for the reason that it is an undisputed fact by evidence of witnesses in this record that the lighthouse was not in existence at the time and assumes an existence of facts not in existence at the time of the establishment of the boundary and relates to conditions after the establishment of the boundary.

Q. Have you ever sailed into the harbor of the City of Green Bay, and if so, what are the conditions as to the depth of water in [fol. 404] the harbor and entrance to the river?

A. The harbor at Green Bay is Fox River and its entrance is a dredged channel extending between six and seven miles from where the river enters the Bay, out to what is known as the sixteen foot

level, somewhat north of the east of Long Tail Point. The dredged channel passes through an Island and the water along the edges of it in many places is not over four or five feet deep, and in some places there are bars. It is quite apparent that until this improvement was made and except for the dredged channel, a boat drawing to exceed four feet could not reach the mouth of the river.

Q. How do you know the hardest storms on Green Bay are and have been from the Northeast and Northwest?

A. I know they are from my personal experience. I know they have been from the condition of the bottom and shores of the Bay. The southeast shores of the bay are built up with sand. The bar is being built up by the wash of sand from the bottom of the bay during heavy gales.

Q. As to Miscauno Island, in the cross examination of Mr. Rupp regarding the channel on the Michigan side of the Miscauno Island, considerable inquiry was had as to whether weeds cover the entire width of that channel on the Michigan side, and whether there were any falls in that channel, or any obstructions such as rocks. Did you go through the Michigan side of that channel and what is its condition for the full width?

[fol. 405] Mr. Rieser: Objected to for the reason it is incompetent, irrelevant and immaterial, no foundation laid and relates to a time other than that at which this boundary line was established, and the conditions under which the survey was made are not normal and ordinary conditions of that river.

A. At the time we came down the river, it was at its low or summer stage. In fact, it was unusually low. We passed down the Wisconsin side of the Miscauno Island with our canoe with comfort, slightly below the island we pulled the boat out on a bar on the Michigan side of the channel. The bed of the stream there consists of boulders, big and small. We walked from where we grounded the boat below Miscauno Island back up in the bed of the stream and around the Island between Miscauno Island and the Michigan shore. There were weeds in some places but the rockly bed of the stream would not permit of weeds growing to any very great extent. The Channels on the three sides of the two islands between Miscauno and the shore were practically dry, the water trickling between the stones only. At that time, the canoe in which we traveled was drawing from ten to twelve inches of water and we had passed on the other channel without grounding.

Q. Have there been any material changes of channels where the islands exist as to the extent that the main channel may have changed [fol. 406] with reference to its location on one side or the other of the islands?

Mr. Rieser: Objected to for the reason that the witness is not qualified, and no sufficient foundation laid, and incompetent, irrelevant and immaterial.

A. We saw no evidence of any such change.

Q. Referring to Plaintiff's Exhibit 155 "Extracts from 'Reminiscences of Early Days on Mackinac Island by Elizabeth Therese Baird'", have you read the description in that exhibit commencing on page 3, describing the route from Green Bay towards Mackinac, and if so, can you tell from the description therein and from your knowledge as to natural land marks, which channel in the waters of Green Bay was taken; that is whether east or west of Chambers Island?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, the witness not qualified, and in view of the fact that the tour described there was not in the kind of a boat contemplated by the definition of the character of the boat that was to determine the boundary line between these states, and in view of the further fact that the exhibit clearly demonstrates from the fact that dozens and dozens of eggs were taken along on this trip, that this was a pure frolic and not a commercial journey and for that reason is incompetent, irrelevant and immaterial.

A. It is apparent from references to the shore line that this [fol. 407] party traveled by the east shore of Green Bay to Little Detroit or Detroit Harbor, through the Strawberry Passage. That they then went out through the Door and awaited favorable conditions while lying somewhere on the east side of Washington Harbor before crossing Lake Michigan.

Q. In the testimony in this case frequent mention has been made of there being numerous harbors on the east coast of Green Bay. Will you describe those harbors and state whether they are natural or artificial harbors?

A. Beginning with Washington Island, the southern edge of Rock Island Passage, there are two harbors on the north side of Washington Island,—Jackson Harbor, which even today can only be entered by a person very well acquainted with it, and Washington Harbor, which is very deep and large, but entirely open to North, Northeast and Northwest, affords no protection in a blow from that direction. On the south of Washington Island, the protected water between Washington Island and Detroit Island, known as Detroit Harbor, is the best harbor in this vicinity, being almost entirely land locked. This harbor is a sort of an inner harbor to the anchorage in Death's Door. On the Peninsula, there are many bays in which protection can be had from winds in one direction, but not from all directions, down to Ellison Bay, where because of the bar, almost complete protection can be had. This situation is again repeated at Sister Bay, about five miles south of Ellison Bay, and at Ephraim there are three locks in two of which [fol. 408] perfect protection may be had. At Fish Creek the harbor is large and deep and with a very small pier, complete protection is had. It is a natural harbor except as to northwest winds, and the condition is exactly repeated at Egg Harbor, four and a half miles further south. Between Egg Harbor and Sturgeon Bay, there are several natural anchorages, not greatly used, however, since there is little travel along the coast on that section. Sturgeon Bay has four or

five natural anchorages, including Sawyer Harbor or Idlewild, which is completely land-locked with the exception of the narrow channel for entrance. The Little Sturgeon Bay, immediately below this, is the last harbor until Green Bay is reached.

Q. On page 9 of that exhibit, the writer says, "One night we encamped at a place called 'Petite Detroit' which is not far from Death's Door. It is a small Island." From that description and your knowledge of the geography of that section, can you tell where that island is, and if so, do so.

A. That reference is to what is now called Detroit Island. It is in Death's Door Passage.

Q On page 11 of that exhibit, the writer thereof says: "We will return now to our last camping place at that charming island and harbor. * * * We now traveled slowly waiting for a day which would show signs of being fine throughout, that we might make in [fol. 409] safety, 'La Grande Traverse'—to cross the lake from the east shore to the west, or north. The crossing started from Rock Island. There were some scattered islands in the route, where shelter was sought in case of a storm or high wind. On the day we attempted the crossing, there was a slight east wind, strong enough to warrant the sails being hoisted. The wind at last dying away, they were taken down, and it was with difficulty we reached our destined port. These boats carry but one sail—a square one. The mast is attached to the side of the boat, and when wanted is hoisted to its place and the sail put up. When in the middle of the lake, a strange sight it was to see the boats arranged in a regular line, near each other, while the men took a rest. (The men never smoked except when ashore.) The boats floated gently on, carried by the current, and always guided by the steersman. The motion was a delightful one. We made a successful crossing, and the men were rewarded by a supper from our mess baskets, and a little extra grog. * * * On our arrival at the other shore, we were no longer able to secure as fine camping grounds as those of the preceding days. * * * We were six days in making the journey from Green Bay to Mackinac, being wind-bound for twenty-four hours in a very dreary camping ground. * * * The following day was not all that could be desired, but as we were nearing our destination we were willing to endure some discomfort for the sake of hastening on our way. We set sail, catching a little breeze that helped us [fol. 410] along. While yet the whole crew were watching the signs of the weather, a sudden squall took us unawares and somewhat disturbed us. * * * All this time we were quite near shore. * * * The day following the squall, we arrived at 'Pointe a la Barbe'—the point where one shaves. * * * From that description of the journey and your knowledge of the geography of that country, can you tell substantially the course which was then taken and point out the points you know?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, witness not qualified and calls for conclusion of the witness as to non-expert facts, which are conclusions that could be drawn and

must be drawn from the document itself, and are not subject of expert opinion.

A. From the descriptions of points of interest in this quotation, it appears to me that this party, having come up the east shore of Green Bay to Little Detroit, passed out through the Door and delayed near the east shore until the weather was favorable for attempting a crossing of the lake. The report says the wind was in the east, which must be in error, since with a boat of that character, and an east wind, their sails would have been of no assistance in crossing either to the northeast or direct east from that point, and undoubtedly, the wind was in the west blowing toward the east. The reference to the camping grounds on the east shore of lake Michigan [fol. 411] and the length of time taken after leaving that shore before reaching Mackinac, indicates clearly a crossing of the channel either between Manitou and Fox Islands or between the North and South Fox Islands. A reference to "Pointe a la Barbe"—this point is on the northerly shore of the Straits of Mackinac, and after getting into the Straits, would be on the course of parties coming from either the open lake or Waugauschance course, inasmuch as Mackinac Island lies around behind the Pointe.

Mr. Rieser: I move that this answer be stricken out on the ground and for the reason that it assumes facts not in evidence and is incompetent, irrelevant and immaterial and is based on a conclusion of the witness drawn from an exhibit in this regard as to matters which are non-expert in their character and for that reason are not subject of opinion.

Cross-examination by Mr. Rieser:

Q. Now Mr. Sawyer, you have lived in Menominee for how long?

A. It will be 35 years the 3rd day of July, 1925.

Q. And you are the son of Mr. A. L. Sawyer, who formerly appeared a/ attorney for plaintiff in this action?

A. Yes sir.

Q. And are now one of the counsel in this case?

A. Yes sir.

[fil. 412] Q. Your firm has been interested in this investigation as attorneys since 1919?

A. We have been interested as attorneys since about the time the suit was commenced. Father was interested as a Boundary Commissioner prior to that time.

Q. And you helped in that work, did you not?

A. Yes, he sent me on several commissions.

Q. Also assisted in preparing the brief which was prepared by the Commission?

A. No, I don't believe I did.

Q. Or consulted with him at all?

A. He undoubtedly mentioned it to me, but I did not do any actual work in it.

Q. When did you start in taking any actual part in the work in this case?

A. I first became directly interested at the time of the first meeting of the Boundary Commission, when my father asked me to procure automobiles to take the Commissioners around to see some of the points of interest in the case. I remember also, at that time, he asked me to procure charts of Green Bay for them to examine.

Q. Were you ever acquainted with John E. Bird?

A. I know him as an acquaintance.

Q. He was former attorney general of the state of Michigan, was he not?

A. Yes.

Q. When did his last term of office end?

A. I would be perfectly willing to say if I knew, but I haven't the date in mind.

[fol. 413] Q. Do you know J. B. Davis?

A. No.

Q. Never knew him?

A. No.

Q. You have had the use of his report to the Attorney General of Michigan, have you not, Mr. Sawyer?

A. Why, I found this report among the papers that were in my father's collection.

Q. Do you know where it came from?

A. I don't.

Q. Have you any reason to suppose that it came from anywhere else than the Attorney General's office at Lansing, Michigan?

A. Now, if I may testify to what my father told me. He told me he went to see Mr. Bird in regard to this and Mr. Bird told him he had lost whatever he had, and sometime later Mr. Bird wrote him he had found a bundle of stuff that might be of interest, and the next time he was in Lansing to drop in and see; and I think this bundle of papers was found among that.

Q. Do you know where Mr. Davis is or lives?

A. No. I might say I haven't read this report in whole. I have read parts of it and glanced it over only within the last two weeks.

Q. You are familiar with the fact that the Attorney General of the state of Wisconsin has demanded the production of the report by J. B. Davis, to the Attorney General of Michigan, and served notice for production of that document in connection with other documents?

[fol. 414] A. That was notice of the report of J. B. Davis to the Attorney General?

Q. Yes?

A. Yes, I know such a demand was made.

Q. And there was attached to that report that you now have before you, a statement that such a request had been made, in your father's handwriting, is not that true?

A. There was attached to this report?

Q. Yes, or with it in your father's papers?

A. This report was among papers in a box in which there was a memorandum in substance "Some of the papers, the production of which has been demanded."

Q. Were you familiar with the terms and with the contents of the complaint that was drawn up by the attorneys for the state of Michigan, in this lawsuit?

A. The bill of complaint?

Q. Yes?

A. Was I, at the time it was drawn?

Q. Yes?

A. I was not.

Q. You have become familiar with it now?

A. More or less, yes.

Q. You know that an allegation is contained in that complaint referring to an investigation made by John E. Bird with reference to this boundary line, do you not?

A. I know there was some allegation in reference to Mr. Bird's interest.

[fol. 415] Q. And as to the reasons why nothing further became of that?

A. My recollection was that the reason why was that Mr. Bird went out of office before he completed it.

Q. Do you know the source of the information upon which that allegation was based other than the report that you have before you?

A. I never talked with Mr. Bird, and as I say I have not read all this report. All I know about it is what my father told me now and then occasionally as I was associated with him in his office.

Q. At numerous times during your testimony in reference to the various islands in the Menominee river, with reference to the statement that the island or particular islands have not been surveyed. Just what do you mean by that?

A. The Government Chart does not show the meandered lines.

Q. The Government chart does not show the meandered lines?

A. Some of them have not even been placed on the charts. Some placed opposite the description and still others showing that the island was meandered.

Q In other words, you would say an island had been surveyed only where there are meandered lines or meandered lines indicated on the chart?

A. Where the minutes of the meandered lines are in on the side of the charts.

Q. Only in those cases you call them surveyed islands?

A. Yes.

[fol. 416] Q. It is also a fact that in your report, not all islands mentioned are actually in the Menominee River between the point where you enter the river and the mouth of the river?

A. I believe they are all in the report but not all mentioned in this testimony.

Q. But they are all in the report?

A. I know they are not all in the report. There are some islands where there could be no question as to where they belong. They were surveyed, and we paid no attention to them.

Q. They were surveyed?

A. They were surveyed, and there may be some that were not surveyed. We didn't pay any attention to certain islands.

Q. None of the islands that were surveyed in the Menominee river have been surveyed as belonging to Michigan with the exception of Merriman Island?

A. There are several of them in the City of Menominee which are now being surveyed, and were all surveyed and are being taxed as a part of the City, but I believe they were not surveyed as a part of the original government survey, but have been surveyed since.

Q. Those islands, however, are islands which are really islands only during high water, are they not, and that practically become attached to the mainland now by artificial filling?

[fol. 417] A. Some are and some are not. Speaking with particular reference to the island on which the Sugar Factory and the Central West Coal Company's dock are located, that island is and has been an island always. The channel between that island and the shore is now used as a storing place for boats.

Q. It is more in the nature of a slip, isn't it? There is no current going through there, is there?

A. There is quite a decided current. It is bridged in three places.

Q. The islands that are not surveyed, as you have termed the word survey, in your testimony, are most all of them small islands?

A. A good many of the islands referred to are small islands.

Q. Some of them so small, or especially so low, that during certain stages of the water, they would be covered?

A. That I presume was true in the early days, but now the water is held back by the dams.

Q. And that would account for the fact that some of the islands are not shown on the township surveys, depending on the stage of the water at which the particular survey was made?

A. I will answer that this way: there could not be any survey along the river where it was necessary to meander the bank during high water. At any time you could meander the bank of the Menominee river, you could meander these islands.

[fol. 418] Q. You mean the way you would meander it, or some of the government surveyors up in that country would meander it?

A. The way it was meandered I will put it.

Q. You wouldn't say that all of the islands that you stated in your testimony as not being surveyed, were not surveyed or meandered lines run on them at a later date than the township plats?

A. So far as possible, when we asked for those government plats, we asked for not only the plats of the original surveys, but all of them down to date, and it appears in the evidence that many of them have been surveyed since that date, but in my reference to those surveyed and those not, I had reference to the present condition and not to the original survey; that is, I included many islands as being surveyed that are not surveyed in the original survey.

Q. And the islands that you state are clearly on the Michigan side of the main channel of the Menominee river, that are surveyed

as being part of Wisconsin, have never been taxed in Michigan, as far as you know?

A. Well now, Merriman Island——

Q. I mean excluding Merriman Island?

A. Excluding Merriman Island, there has been an attempt or was at one time an attempt by the Michigan authorities to tax Miscauno Island, but I think it failed. Aside from that it has not been the policy of Menominee County to tax any islands except the [fol. 419] islands in and near the city of Menominee.

Q. That Miscauno Island—how long ago was an effort made to tax that?

A. Probably within the last few years; probably as a result of the agitation of this suit.

Q. There was no litigation?

A. I might explain further—it came about this way: there is a branch of the Wisconsin & Michigan Railroad to this island on which Walz, the President of the road, built a very fine summer hotel, and in taxing the railroad company's property for the county of Menominee, that added to the valuation, and he built this hotel under a general assessment to the railroad company without describing the island exactly, and there was some difficulty over that, and I understand they finally arrived at some sort of an adjustment, whatever it was.

Q. Now referring to Miscauno Island, that has been an island that is largely cleared?

A. There is a considerable clearing.

Q. Farming going on?

A. No farming. It is a summer resort place.

Q. That has been true of that Island for thirty years or more?

A. No, up until fifteen years ago, it was the banking ground for dumping logs from the Wisconsin-Michigan Railroad Company into the river to be driven on down. It was called "Holmes Landing" prior to that time.

[fol. 420] Q. And for how many years was it so used and called Holmes Landing?

A. I presume as long as the Menominee River was driven.

Q. And that was a prominent landmark so far as the lumbering operations of the Menominee River were concerned?

A. Yes.

Q. And used largely in the transportation of lumber or logs that had been cut north and northeast of the Menominee river region?

A. Before the Wisconsin-Michigan built in there, there was a short logging road built by Mr. Holmes.

Q. Was that built northeast?

A. Almost directly east, but a little north of east.

Q. Who was Mr. Holmes?

A. Mr. Holmes was the President of the Menominee River Boom Company. I think he was the President a good deal of the time, and was prominently identified with lumbering in that section.

The name "Miscauno" was given to it in connection with the hotel.

Q. Now referring to the small islands,—you say there are three islands, two small ones and one large at that particular point in the Menominee River. As a matter of fact, the third island may have been formed by the splitting up of the others?

[fol. 421] A. The channel might have been washed through the one Island, making two islands out of it.

Q. Now you state that with reference to the island in Lot 5 and Lot 7, Section 2, Township 33 North, Range 21 east in the Wisconsin survey, that this is owned by a Michigan farmer and land owner?

A. By that question I am unable to answer. If you can show me a chart or something. (Witness refers to chart) Yes, that is the island I referred to as Sawyer Island.

Q. How large an island is that?

A. Approximately four acres.

Q. Is that cleared, the part that is occupied?

A. There are only one or two trees on that. I might say that that land was owned by my father for many years and I cut the hay on it personally there since I was a boy. It was a part of the Kitsen Trading Post on the Menominee River.

Q. That was one of the early Indian Trading Posts?

A. Yes, this man Kitsen worked there for John Jacob Astor.

Q. In the early thirties?

A. Yes.

Q. And at that point it is very clear that that particular Island is clearly on the Michigan side?

A. Yes, in taking the hay off we drove right up to it, and on the other side you have a channel thirty feet deep.

[fol. 422] Q. And that channel is now about the same as it was when you were cutting hay?

A. Yes, it was when I was there in the past season.

Q. And you would say that condition has not changed from the time when you first went over it to fifty years before that time?

A. To any one it would appear that way.

Q. And that would be true as to most of the islands with reference to the channels we will say?

A. There are a few which we have to go out and take measurements.

Q. But in most instances, a casual observation would tell any one on which side of the channel that island would be?

A. Yes.

Q. And that could be determined at almost any season of the year?

A. Of course in the early seasons it used to flood a a quarter of a mile back from the banks, and you couldn't tell where any of them were.

Q. Most of the islands would be probably out of sight?

A. Yes, except where the trees are.

Q. And the Menominee river has been for over forty years the means of transporting logs from northern Michigan and down to the mouth of the Menominee river?

A. The Menominee and its tributaries furnish the means of trans-

portation for the pine on its banks and off the summits in the lake country in Northern Wisconsin and Michigan.

[fol. 423] Q. The country along the river bank in both states, especially on the Michigan side is settled to some considerable extent?

A. Not very much.

Q. The Sioux Line Railway right of way crosses the Menominee River somewhat below Sturgeon Falls?

A. Just above Pemene Dam.

Q. How long has that road been built through there?

A. Many years. I haven't any knowledge when.

Q. There were dams in the Menominee River in the vicinity of Menominee that have been there a great many years prior to what you remember?

A. They have a legend that the Menominees and the Chippewas fought over the construction of the dam there. The lumbermen built dams very early.

Q. And the country has been built up for about fifteen miles along the Menominee?

A. You get outside of Menominee and you find cut over banks along the river. There is no settlement along the river fromMenominee up to Niagara, in Wisconsin, except the little town of Koss on the Michigan side, where the Wisconsin-Michigan railroad crosses the river where there was at one time a saw mill and I believe there is a little portable mill now.

Q. Koss at one time, was a considerable town?

A. There was a mill there at one time, but since I was alive it has not amounted to much of anything.

[fol. 424] Q. In fact, most of the clearing and cutting of wood in the immediate vicinity of the Menominee River was done prior to your time in the region of Quinnesec Falls down?

A. Yes, the country was all logged off. There are nothing but slashings.

At this time an adjournment was taken to March 10th, 1925, at 10 A. M. at the same place.

Pursuant to adjournment the taking of further testimony on behalf of plaintiff was resumed this 10th day of March, 1925, at the Hearing Room in the Capitol, at Madison, Wisconsin, plaintiff and defendant being respectively represented by counsel heretofore mentioned.

Mr. MEREDITH P. SAWYER being further cross-examined by Mr. Robert M. Rieser:

Q. You have also referred to the Wallace Bridge below Grand Rapids at the M & M Light & Traction Company's dam—do you know how long that bridge has been in there?

A. Well it was approximately in 1907. It may have been a year or two before or a year later.

Q. Was there a bridge across that place of some kind prior to [fol. 425] that time?

A. I believe not.

Q. No ford there?

A. There was a Ford used at low stages of the river.

Q. There were roads running up to that point on both sides?

A. Not exactly that point, but near there.

Q. And since 1900, there have been several highways built in quite close proximity to the Menominee river in the region of Marinette and Menominee up toward Wallace Bridge?

A. There is no highway following the river on the Michigan side, but there is one which follows near the river on the Wisconsin side most of the way to the Wallace Bridge.

Q. And there was also several years ago some attempted development of the water power at Pemene Falls?

A. There is a cement pier in the center of the falls. This pier was built to support a bridge which was one of three bridges built the same time the Wallace Bridge was built.

Q. And that work was done by the state of Michigan?

A. It was done by the two counties Marinette and Menominee County. I might add for your information, that bridge was put in in the winter and taken out in the spring.

Q. By a freshet?

A. Yes.

[fol. 426] Q. Now you state also, that on one of your inspection trips, you went into the vicinity of Lake Brule? That was in what year?

A. Either '20 or '21, I would not be definite, I think it was '21.

Q. How did you go over there?

A. I drove with an automobile and got out at certain points and walked around.

Q. With reference to the creek running from Lake Brule in a southwesterly or westerly direction, how far did you follow that road?

A. We followed along the road which follows its general course and walked into the creek at several points.

Q. How far did you follow it?

A. Why, we were on the road which runs from what is commonly called International Bridge over the Brule below Brule Lake to the station called "Land of the Lakes" now, formerly called "State Line". I would say for at least twelve miles after leaving the Brule river we were occasionally going down to this creek, and the last part of the way it was merely a trickle.

Q. What is the size of this stream at the place where it enters Lake Brule?

A. It don't enter Lake Brule. It runs down into a Beaver Bog. At the place where we saw it where it was the deepest, it was not to exceed twelve feet across.

Q. And about how deep?

[fol. 427] A. At that time of the year it was very shallow.

Q. And was it a stream that dries up part of the year?

A. In dry seasons it would be naturally dry.

Q. Are you positive that it runs into the Brule River?

A. No, I didn't see that of my own knowledge; that was what we were told.

Q. About how far south of the boundary line or state line, as it has been run through that region there, is it that this creek runs?

A. Well, we struck it very soon after we crossed the Brule river and the direct course was generally directly west, so that the only effect it would have on the boundary line would be to continue straight west instead of somewhat northwest.

Q. At the bog that you refer to,—the beaver bog, you referred to where you traced it, how far is that Beaver Bog at the point where you last saw it?

A. We didn't make any effort to tie it up. It would be a few miles south of Lac Vieux Desert. This creek was also supplied by several very little lakes in or near its course.

Q. What time of the year were you in that region?

A. It was in the summer time.

Q. Have you any idea about fixing the time?

A. There were references made to the trip by the attorney general and the commissioners to the Montreal River and this was on the same trip.

[fol. 428] Q. You say a boat or ship approaching the Rock Island entrance to Green Bay from north of the North Fox Island, can see the Pottawotamie or Rock Island Light?

A. I spoke in reference to the Rock Island Passage which passes between the two islands.

Q. Between the North Fox and the South Fox?

A. They pass between the light on the Big Fox Island and a can buoy a few miles off shore, passing to the south of North Fox Island.

Q. Isn't that can buoy that you refer to in that course, south of the South Fox and between that and the South Fox Island Shoal?

A. That course is south of the Big Fox, which is on the chart called the South Fox.

Q. And that is a course that is not generally followed by boats coming into Green Bay, except as they might go into the Death's Door Entrance?

A. That is the course followed by any boat crossing anywhere on the east shore of Michigan above Frankfort and south of the Straits.

Q. But a boat coming through the Straits would not take that course ordinarily coming into Green Bay?

A. No, it would not.

Q. It would take a course north of the North Fox or North of the Beaver?

A. They never cross north of the North Fox Island, but if they [fol. 429] are coming into Green Bay, they continue out past the White Shoal Light which is a midland large lighthouse built by the government to make that channel safe.

Q. Is that referred to as the Lansing Shoal?

A. No, the Lansing Shoal is to the north of that passage and farther west.

Q. But the course of those boats coming through those Straits would be north of the White Shoal Light and then west to Garden Island Shoal Light?

A. They clear the entire group of islands before swinging south.

Q. And swing south in the vicinity of Lansing Shoal Light?

A. Squaw Island Light is the turning point in the course.

Q. And a boat coming from that direction would have no difficulty in seeing the Pottawotamie or Rock Island Light?

A. They would pick up half a dozen lights before they would see the Pottawotamie Light.

Q. A boat on the course from Lansing Shoal or Squaw Island coming south would have no difficulty in seeing the Rock Island Light if it intended to enter through the Rock Island Passage?

A. That's true, if it was on that course, but if they coasted too far to the north, they would be unable to see the light.

[fol. 430] Q. But, as it would come over close to the Grand Traverse, then it would be able to see the Light by following along down that shore?

A. The light would be hidden in case they were coasting along the shore, but if they were directly on that compass course, the light is directly in view. That course is used today by a large number of freighters coming in.

Q. For the down lake or lower lake traffic?

A. Yes, that is the boats coming to Escanaba. They come on that course until they nearly reach the Rock Island Passage, and then swing over through the St. Martin's Island passage, because they save distance, but that is only done of recent years.

Q. And as I understand your testimony, with reference to the courses that are followed by boats entering and leaving Green Bay, that is confined to your experience on Green Bay, is that right?

A. Yes, on Green Bay and Lake Michigan.

Q. And your observation of freighters and vessels?

A. I never had anything to do with them, except that we would see them when we were out in boats.

Q. Your experience has been entirely with pleasure boats launches and yachts?

A. Yes.

Q. How high was the old light on Plum Island that you refer to?

A. Well, I can only guess at it. The ruins are only a few feet high. I never saw it except ten feet of wall standing there in my [fol. 431] lifetime.

Q. And for that reason it would be impossible to say just what view could be obtained to the north or northeast with the aid of that light?

A. It would be almost absolutely sure that the light was not high enough so that it could be seen to the north or very far to the northeast, and not at all to the northwest. The light is on the south side of the Island.

Q. In other words, traffic coming in from the lower lakes and following the course by way of White Shoal Light and Squaw Island

north of Beaver Island, could not see that light until it would be opposite Death's Door?

A. It would have to be very nearly in the Door before they could see it. I might say that is still true. You could not see the range lights now in the Door although you can see Pilot Island Light.

Q. That is until Pilot Island Light was there, there would be no Light to guide you coming from the North?

A. No. No other except Pottawotamie. If you could see Pottawotamie, you would have yourself located.

Q. This is also true, that all of the Islands that are in Green Bay are a great deal closer to the Wisconsin shore than they are to the Michigan shore, those that are involved in this suit—the Door County shore of the mainland.

[fol 432] A. Let's be definite. Chambers Island, the Strawberries are closer to Door County than Menominee County. Washington Island is equally distant between St. Martins and Gills Rock, the northern end of the Door County Peninsula.

Q. And Chambers Island is a part of the State Park that is mentioned by Wisconsin?

A. I have no knowledge except just what Mr. Rieser has told me.

Q. About how many storms a year would you say, do you have of any considerable size in Green Bay, during the sailing season?

A. Not so many during the yachting season. The heavy storms come in the fall.

Q. That is in the late fall, October and November?

A. October, November and December.

Q. In the summer time it is comparatively safe from very large or dangerous storms?

A. From long continued storms. We have sharp sudden squalls.

Q. With reference to the trip with the Commissioner and the experience you had there, your failure to make that crossing from Sturgeon Bay over to Menominee was due rather for your regard for the Commissioner's health than for the safety of the crossing, isn't that true?

A. That's true.

[fol. 433] Redirect examination by Mr. Mosier:

Q. Counsel has directed your attention to the Plum Island Light House, or the remains of it, have you described what you have seen there in the way of ruins?

A. The ruins of the lighthouse consist of the base of the old stone wall approximately 30 feet square. The space between the walls is largely filled up with the stone, evidently fallen from the tower and there are large trees growing in this pile of rock, including a large birch, of which there is a photograph with us. As I recollect, the birch is from 10 to 12 inches in diameter. The position of the lighthouse was examined particularly with a view to what aid it would be to navigation going through the Door and it was readily apparent that the light would be visible to any boat in the Passage.

Q. The ruins that are now seen indicate just a pile of stone or has it some evidence of masonry?

A. The walls varying from nothing to four feet high, laid up by masons, are still there, and the stone which was in the rest of the walls is laying in the middle or on the outside of the ruins. There is also in front of the ruins, a small park in which somebody has spelled out the words "Porte des Morts" and that is all overgrown, indicating that that was the name of the Lighthouse put there in the early days.

[fol 434] Q. Counsel asked you if your experience on the lakes was confined entirely to pleasure crafts. As I understand you have had no experience on other large boats?

A. Well, I have traveled on large passenger boats.

Q. But in your cruising about Green Bay and Lake Michigan, have you covered all of the area covered by the testimony so far?

A. Many times.

Q. And over what period of years does that extend?

A. Since I was ten years old—twenty-five years.

Q. Attention was directed yesterday to the report of J. B. Davis, and you said that you did not know anything about the report. You have it here?

A. That paper there which you refer to as the Davis Report, is the paper which I found among some papers my father had left with the notation "Perhaps one of the papers of which production has been demanded." I have been unable so far to learn who Mr. Davis is and whether he is dead or alive, or of what importance the paper is.

Recross-examination by Mr. Rieser:

Q. It is the paper that you furnished to me in response to the notice as the report of J. B. Davis of 1907-1909?

A. It is furnished by us in good faith and that we made an effort to produce what you asked for. We do not know what the report is at this time.

[fol. 435] Mr. Rieser: I want to offer at this time an extract from the report referred to, being the title page—Page 1, and from a little above the middle of page 81 to the middle of page 82 of that report.

Mr. Sawyer: We haven't any objection to that being a copy, provided we are always given the privilege to introduce any more of it.

Mr. Sawyer: It is agreed that extract offered is a true copy of the original, in return for which it is also agreed that the plaintiff may introduce any further extracts in the same manner should it see fit.

Mr. Mosier: I think we should reserve the right to enter our objections to that exhibit or to the document from which it is taken at a later date.

Mr. Rieser: I have no objection to that way of preserving your record, providing this objection will be filed before the hearings are closed.

Mr. Sawyer: Certainly.

The report referred to of J. B. Davis is marked Defendant's Exhibit "46" and the copy which has been made therefrom is offered as Defendant's Exhibit "46-a."

Mr. Rieser: Is that your proof?

Mr. Sawyer: We have finished at this hearing, but we do not want to rest our principal case.

[fol. 436] Mr. Rieser: The plaintiff states that it is not ready to rest, but that in view of the fact that the defendant is ready to offer testimony at this time, and that a large number of exhibits, which the plaintiff proposes to offer as a part of its case, have not been definitely agreed upon as final exhibits and the record completely made in respect thereto, the defendant may proceed with the testimony it has ready to offer, without waiving its right to preserve on the record a motion for dismissal of the plaintiff's case at the close of its case, at any time that the defendant may see fit to interpose it.

The defendant, to sustain the issues upon its part, offered the following evidence, to-wit:

Paul Negani, being duly sworn, on his oath testified on behalf of defendant as follows:

Direct examination by Mr. Rieser:

Q. Mr. Negani, where do you live?
A. Lac du Flambeau, Wisconsin.
Q. How long have you lived there?
A. I have lived there all my life.
Q. Are you a graduate of the Indian School at Lac du Flambeau?
A. Yes.
Q. The Government Indian School?
A. Yes.

[fol. 437] Q. You are living there on the Reservation?
A. Yes.
Q. And have lived there all your life?
A. Yes.
Q. You know the two witnesses from Lac du Flambeau that are here to testify?
A. Yes.
Q. What are their names?
A. One is Big George and the other Jim Bell #2.
Q. What is Big George's Indian name?
A. Big George's Indian name is Chief "Kitchi oja ni mwe we gi jig."
Q. What is Jim Bell's Indian name?
A. "Negani gi jig."
Q. Now you have been asked to come here to act as an interpreter, Mr. Negani?
A. Yes sir.

Q. Have you served as interpreter before in court proceedings?
A. Yes sir, I have at various times.
Q. In Federal Court?
A. Yes in Federal Courts and in State Courts.
Q. For how many years?
A. Well, since I quit going to school, in Lac du Flambeau there. I quit going to school in Lac du Flambeau in 1909 and I went to work in the Government office there the following year in 1910 as an interpreter and stayed there for four years I guess.
[fol. 438] Q. And what language do the Indians of Lac du Flambeau speak?
A. They speak the Chippewa language mostly.
Q. And you are able to interpret from the Chippewa into English and from English into Chippewa?
A. Yes.
Q. And that has been your experience?
A. Not all the time, but any time that I have a chance to do any interpreting for the Indians I do.
Q. Do you act as interpreter for the Government officials as well as in court?
A. When I am asked to, not being connected with the service at the present time, I do not get much of that.

Cross-examination by Mr. Sawyer:

Q. What tribe do you belong to Paul?
A. To the Chippewa Tribe.
Q. The Lac du Flambeau Branch of the Chippewas?
A. Yes.
Q. Are you a full blooded Indian?
A. Yes.
Q. What is the family name of your family?
A. Negani.
Q. What does that mean?
A. I don't know what that means.
Q. Are your parents living up there yet?
A. My father is living, my mother died some years ago.
Q. These men who are to be witnesses, Big George and Jim Bell, [fol. 439] they are from the same tribe?
A. Yes.
Q. And you have known them all your life?
A. Yes.
Q. They are older men than you are?
A. Yes.
Q. Is Big George the Chief of the tribe or band?
A. No, not that I know.
Q. Do you have a chief?
A. Oh, we have one there who is recognized as being the Chief, for the simple reason that his father died some years ago, and it is customary with the Indians that that should go down to the son.
Q. Who is the leader or the head man in your village?

A. That would be the chief—that is Negani gi jig. That is Jim Bell.

Mr. Rieser: And Jim Bell is also your father?
A. Yes sir.

By Mr. Sawyer:

Q. The tribe of which you are a member, have lived how long at Lac du Flambeau? Has that always been the home of the tribe?
A. Has always been the home of the tribe, so far as I know.
Q. And as far as you know they have always been there?
A. Yes.
Q. You are near the site of the trading post by that lake?
A. I don't know of any trading post there. The nearest trading [fol. 440] post would be on Lake Superior, and we live some 60 or 70 miles south.
Q. The language which you speak, the particular branch of the Ojibway language is the same language that you have learned from these men, have you not?
A. Yes.
Q. The word "Ojibway" and "Chippewa" is practically the same is it not?
A. Yes, practically the same.

Mr. Sawyer: We desire to record an objection to this man as interpreter for the purpose of the record, that he is related to the witnesses and has been under their influence during his early life, and we desire to reserve the right in case the interpreter proceeds to have the reporter take the original Indian language of the witnesses when we so request.
Mr. Sawyer: I presume it is also understood that we can use this interpreter for the purpose of cross examination.
Mr. Rieser: I am going to assume this attitude, that if you are going to proceed to try this case on the objection that has just been raised, that you shall have to take your own chances. I shall not concede that.

[fol. 441] Mr. Paul Negani was sworn to act as Interpreter to interpret from English into Chippewa and from Chippewa into English.

Mr. Paul Negani interpreted the oath to Big George Skye, who was offered as a witness upon the part of defendant and who, being duly sworn, testified as follows:

Examination by Mr. Rieser:

Q. What is your name?
A. Big George. Indian name is Kitchi oja ni mwe we gi jig—Big George.
Q. What is the English name that you are known by?

A. My English name is Big George Skye.
Q. Where do you live?
A. I live at Lac du Flambeau, Wisconsin.
Q. How old are you?
A. I am seventy years old.
Q. How long have you lived at Lac du Flambeau.
A. I lived there all my life.
Q. Are you a member of the Chippewa Tribe that lives on the Reservation there?
A. Yes.
Q. Do you know how that tribe got from Lac du Flambeau to Lake Superior during your days?

Mr. Sawyer: Objected to for the reason that it is too remote from the time and the conditions existing when the grant to the State of [fol. 442] Michigan became effective, and that it is self serving testimony, originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial.

A. The Indians in those days traveled—made those trips to Lake Superior only in the summer time, and they traveled from Lac du Flambeau by water up to Long Lake and from the North end of Long Lake the trail known as "The Lake Superior Trail" started from there and then up toward Lake Superior.
Q. About how old were you when you first started over that trail?

Mr. Sawyer: Same objection.

A. The first time I traveled over that trail, I should judge I was about seventeen years old.
Mr. Rieser: And was the trail hard to find at that time?

Mr. Sawyer: Same objection—that it is too remote from the time and the conditions existing when the grant to the State of Michigan became effective; that it is self serving testimony originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial.

A. It was not.
[fol. 443] Mr. Rieser: Just tell what the trail looked like as to size.

Mr. Sawyer: Same objection.
Mr. Rieser: You may have that objection to all questions if you like.

A. It was no difficult matter to travel the trail, because it was blazed and had been traveled for so many years that it was pretty well worn down and easy to be followed by any one.
Mr. Rieser: About how wide was that trail?

Mr. Sawyer: Same objection.

A. Well, the trail—I would not be positive, the exact width of the trail, but it wasn't more than two feet wide anyway. Of course the trail there wasn't the same width all the way.

Mr. Rieser: What about the ground along the trail, was that the same level as the ground on each side of it?

A. Where the trail went the ground usually was a few inches below the ground on the sides of the trail.

Q. Did you from that time on go over that trail very often?

A. Yes I traveled that trail very often after I made the first trip.

Q. About how often a year would you say?

A. The entire length of the trail was never traveled by me more than once or twice during one year, but the first part of the trail, I have traveled that very often for the reason that my parents [fol. 444] practically lived over there and it was much trapping and hunting; that part of it I traveled a whole lot, the first half of the trail.

Q. What do you mean by the first half of the trail?

A. Well, the first half of the trail is what I call the trail that runs from Pine Lake up to the first creek on the south side of Pine Lake. That is the territory that they usually covered on their hunting trips. For that reason that trail was traveled by me very often; that is the part of the trail that I refer to as the first half of the trail.

Q. Do you know where the river known as the Go go gas u gun is?

Mr. Sawyer: Objected to for the reason that it assumes a conclusion.

A. Yes, I know the river.

Q. Where was your hunting and trapping ground with reference to that river?

Mr. Sawyer: Objected to for the reason that it is too remote from the time and the conditions existing when the grant to the state of Michigan became effective; that it is self serving testimony originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial.

A. Our hunting and trapping grounds were between Go go gas u gun and Long Lake.

Q. Did you go over that trail in the summer of 1924, Mr. Skye?

[fol. 445] A. Yes.

Q. Were you able then to find it and identify it when you went over it?

A. Yes I was able to find the trail.

Q. Did you show it to Mr. Halbert here on my right?

A. Yes.

Q. And to the people who were with him?

A. Yes.

Q. And how far did you trace that trail?

A. Across that river Go go gasugun.

Q. By what name is the Go go gasugun now known by White people?

A. I don't know what white people call it.

Q. Do you know where Gile is—Gile station?

A. No.

Q. Do you know what the river Go go gasugun flows into?

Mr. Sawyer: Objected to on the ground that it calls for conclusion and does not specify whether the river to be flowed into is to be known by its Indian name or English name?

A. Yes.

Mr. Rieser: What river is it?

Mr. Sawyer: Same objection.

A. It runs into Pine river.

Mr. Rieser: Do you know where Pine Lake is?

A. Yes.

Q. And what river runs out of Pine Lake?

A. Pine River.

Q. Were you able to tell where that trail that you followed in the [fols. 446-448] summer of 1924 crossed the Pine River?

A. Yes.

Q. Did you show that to Mr. Halbert and his party?

A. Yes.

Q. Did you also know a creek or stream by the name of Lehman's Creek?

A. No.

Q. Did you cross any other streams after you crossed Pine River before you came to the Go go gasugun in the summer of 1924?

A. Yes sir.

Q. About where and into what stream does that stream flow?

A. The river flowed east.

Q. And into what river?

A. And into the Pine River.

Q. And did you find the place where the trail crossed through in 1924?

A. Yes.

Q. And what was the name of that river?

A. Ini nau du ga se bi.

Q. And what was the American name of that river? You will have to give us that?

A. The American name or English?

Q. The English, yes.

A. I never heard of that river, never any English name.

Q. Were you able to find the trail all along the way down Long Lake and the Gogogasugun in 1924?

A. I wasn't able to follow the trail the entire distance up to Gogogasugun for the simple reason that at various times I lost track of [fol. 449] the trail, but every now and then I would run onto the trail.

Q. And how could you identify the trail?
A. I was able to find that trail because I had known that country so well and the way that country was laid out, there so well, I could find it at that time. The trail was well worn.
Q. What particular place did you find the trail?
A. When we left Pine Lake it was only a short distance from Pine Lake before we started following the trail.
Q. Is that Pine Lake?
A. That was referring to Long Lake instead of Pine.
Q. Then what other place did you pick up the trail?
A. Then again I found the trail when I was—just before I crossed the Pine River.
Q. What about the crossing of the Pine River?
A. Yes, it is in the crossing where we used to cross.
Q. And what was the next place?
A. Again I found a river right near the In on de ze bi.
Q. And what was the next place?
A. Right near Go go gas u gan.

Cross-examination by Mr. Sawyer:

Q. How do you know your age?
A. I knew my age through my parents.
Q. Did you ever know of the Montreal river where it was?
A. Yes.
Q. You do know where it is?
A. Yes.
[fol. 450] Q. Where is that river?
A. It is below Pine River.
Q. The Pine River runs into it?
A. Pine River and the Montreal are the same river.
Q. And the Go go gas u gun runs into the Montreal too?
A. Yes.
Q. And the Indians called the lower part of the river the Montreal, did they?

Mr. Rieser: He didn't testify to that. He said the Pine River was part of the same river, and you tried to make it part of the same system.

Q. Did they call the lower part of this river system the Montreal?
A. There was no part of that river known as the Montreal in the olden days.
Q. Not by the Indians?
A. No.
Q. Did the Indians have any other name for the river below where the Pine and the Go go gasugun join? Did the Indians have any other name below that or what do they call that section of the river, if they had any name for it?
A. The Montreal River?
A. Did they have any name for that section of the river below the forks?

A. Yes.
Q. What was that name?
A. At the Forks there is one river runs south and there is another [fol. 451] one runs east; the one that runs south is known as the Go go gasugun by the Indians. And the one running east is known as the Shin gwa Ko se bi.
Q. Meaning the Pine River?
A. Yes.
Q. From there up to Lake Superior it was known as what?
A. It was known as Ga wa si gi wa no si be.
Q. Can you give us the English translation of that?
A. I don't know the meaning of that word.
Q. Is that a Chippewa word?
A. I suppose it is a Chippewa word but I never heard the English name for it.

Paul Negani, interpreter, further interpreting his answers, testified as follows:

Redirect examination by Mr. Rieser:

Q. What is the English name for In on de ze bi?
A. Spruce River.
By Mr. Sawyer: Might that also be interpreted as Balsam River?
A. Yes.
Q. The Balsam and Spruce are a good deal alike?
A. Yes.
Q. And the French Canadian name "Sabin" would that mean the same?
A. I don't know.

Witness excused.

[fol. 452] The defendant, to further sustain the issues on its part, offered the following testimony, to-wit:

Ne Gani Gi Zig, who was duly sworn on behalf of defendant through Interpreter Paul Negani, testified as follows:

Direct examination by Mr. Rieser:

Q. What is your name?
A. Ne gani gi zig.
Q. Are you also known sometimes as Jim Bell #2?
A. Yes sir.
Q. Where do you live?

Mr. Sawyer: We will want the same objection as to the Interpreter as to the examination of this witness.

A. I live at Lac du Flambeau, Wisconsin.

By Mr. Rieser:

Q. How long have you lived there?
A. I have lived there ever since I can remember.
Q. How old are you?
A. I don't know the exact date, but I think I am around seventy years old or better.
Q. Do you have any official position with the Indian Tribe at Lac du Flambeau?
A. Yes.
Q. And what is that?
A. The people recognize me as being one of the Chiefs of Lac du Flambeau.
Q. Was your father a chief of the tribe?
A. Yes sir.
[fol. 453] Q. Do you know how your tribe went from Lac du Flambeau to Lake Superior and to the Pointe?
A. Yes sir.
Q. How did the tribe get to those places?
A. The only way that the Indians could get over there at that time would be to walk from Lac du Flambeau and follow the trail down to Lake Superior and at places they would have to use birch bark canoes.
Q. Was there more than one of those trails leading down to Lake Superior that your tribe followed?
A. There was no other trail that I know of, only that one trail.
Q. About how old were you when you first went over that trail?
A. I do not know what age I was at the time, that was the first trip I made over it.
Q. Can you tell about how old you were?
A. The only way that I could tell that I wasn't very old was for the simple reason that I was not able to help in any way, that is toward carrying the things that my folks used to carry back and forth there.
Q. Do you remember the trail at that time—what it looked like?
A. Yes, I saw how the trail looked.
Q. And was it easy to be found?
A. Yes, it was no hard matter to find the trail.
Q. And why was that?
[fol. 454] A. The reason why it was not difficult to travel was because the trail was pretty good size and had been traveled a whole lot and it was no trick for anybody to follow that trail at that time.
Q. Did you go over that trail often from that time on?
A. Yes.
Q. About how often every year?
A. Well, at times I would travel that trail once a year; that is going over I would follow the trail and coming back, sometimes once a year and then again twice a year.
Q. Did you go over that trail in the summer of 1924?
A. Yes.
Q. And did you point that trail out to Mr. Halbert here, and some people that were with him?
A. Yes sir.

Q. And were you able to find where the trail went at that time?
A. Yes sir.
Q. Did you point it out correctly, wherever you found traces of it?
A. Yes sir.
Q. Tell us now where the different places were where you found that trail?
A. When I left the boats and right up the hill there is where we found the trail.
Q. Where did you leave the boats?
A. At the landing on that lake.
[fol. 455] Q. What lake was that?
A. It is that Lake that they call Long Lake, in the north end of Long Lake.
Q. And what other places did you find the trail?
A. How I happen to find the trial again some distance from the lake—we went through a bunch of timber and where we thought the trail would be, we went there and looked and we found the trail to show pretty good.
Q. How did it show there at that place?
A. The trail showed plainly there in the timbers.
Q. In what way?
A. Well, I knew that that was the trail where I went. It wasn't no hard thing to anybody to tell that was the trail because it was some few inches below the ground on the sides of the trail.
Q. And in the early days when you went through that trail was that true of the ground or the trail all along the way, that it was deeper than the ground on both sides of it?
A. No, it wasn't like that all the way.
Q. Was it a good part of the way?
A. Yes sir.

Cross-examination by Mr. Sawyer:

Q. Was that trail blazed in the timber at that point?
A. Yes sir.
Q. What is the trail blaze of the Chippewa Tribe?
—. How do you blaze for the trail?
[fol. 456] Q. Does he blaze both sides of the tree or how?
A. The way we blaze the trees is simply take an ax and chop on either side of the tree. That is about all anybody else could do.
Q. They blaze on both sides in the direction that the trail is running, is that it?
A. Yes.
Q. Did you ever talk with your father or the old Chiefs in regard to the early days of the tribe?
A. No.
Q. You never talked with them about it?
A. No.
Q. Don't you know what tribe you came from and when they came to that country?
A. No.

A. The tribe don't keep any records at all?

A. No.

Q. Do you know whether or not the Chippewas always occupied that part of the country?

A. Not as far as I can remember.

Q. Did you ever hear that the Chippewas drove the Sioux out of that part of the country many years ago?

A. Yes I had heard of it.

Q. That was many generations before you, was it not?

A. Yes it was.

Q. Now this country around Lac du Flambeau is in the region where there are many lakes in Northern Wisconsin?

A. Yes sir.

[fol. 457] Q. And you can travel from lake to lake by carrying your canoe from one place to another all round that country?

A. Yes sir.

Q. And from some of those lakes you can go down a river into Lake Michigan and from some you can go down into Lake Superior, and from some you can down into the Mississippi River?

A. Well, I don't know about Lake Superior,—about the trip to Lake Superior, but you can go southward on the Mississippi and on the Chippewa Rivers you can travel that by water, but it is impossible to go to Lake Superior in a canoe.

Q. Do you know about going from Lake Superior to Green Bay by going from lake to lake?

A. I don't know.

Q. Now the Indians that lived in this part of the country had cleared fields to a certain extent—had farms around their homes?

A. Yes.

Q. And that was true of nearly all the lakes, there would be an Indian there with a little cleared field on many of the lakes?

A. Yes sir.

Q. Is the word kitta ke gon, Chippewa word? Do you know that word?

A. I don't know that word.

Q. Do the Indians have any word which would be the equivalent in Indian of the word plateau or height of land from which rivers [fol. 458] descend or divide?

A. No, I don't know of any.

Q. Was it customary among the Indians to refer to a large section of country by the name of the principal lake or trading post or village in that vicinity?

Mr. Rieser: Objected to as improper cross-examination.

A. Yes sir.

Mr. Sawyer: Do you know anything of an old trading post at or near Lac du Flambeau?

Mr. Rieser: Same objection, not covered by direct examination.

A. There was no prominent trading post, but there has been traders going through that country.

Q. Mr. Sawyer: Do you know whether those traders were from the American Fur Trading Company of the Northwest or the Hudson Bay Company?

A. The American Fur Trading Company.

Witness excused.

An adjournment was taken at this point to 1:15 P. M. at the same place.

[fol. 459] Pursuant to adjournment the taking of further testimony on behalf of the defendant was resumed this 10th day of March, 1925, at 1:15 P. M. at the Hearing Room in the Capitol, at Madison, Wisconsin, plaintiff and defendant being respectively represented by counsel heretofore mentioned.

The defendant to sustain the issues on its part offered the following evidence, to-wit:

BERT CARMODY, being duly sworn on behalf of defendant, testified as follows:

Direct examination by Mr. Rieser:

Q. Where do you live?

A. Sturgeon Bay, Wisconsin.

Q. How long have you lived there?

A. Forty-three years.

Q. Are you now holding an office with Door County?

A. Register of Deeds.

Q. And how long have you been Register of Deeds?

A. Eight years.

Q. And are entering now upon your tenth year term?

A. Yes.

Q. Were you in office during 1924?

A. Yes.

Q. Door County was originally a part of Brown County, was it not?

A. Yes sir.

Q. And for part of your records of the early transfers etc., Mr. [fol. 460] Carmody, where did you go to get your records?

A. In the early part I went back to our records. Our records show that they were recorded in Brown County. At the bottom of the page it shows Brown County, and I didn't have those, so I went to Brown County and got those.

Q. Part of the Records of Brown County were transferred to Door County?

A. Yes.

Q. Did you make a record of some of the records in your county and some in Brown County with reference to the transfer on Islands—of Chambers Island and some of the islands in Green Bay?

A. Yes, and Rock Island.

Q. And did you determine from those checks that you made, the

number of transfers as to the various descriptions on those various islands?

A. I checked over every description and counted the entries. The transfers of these mortgages, etc.

(Defendant's Exhibit "333," M. H. identified.)

Q. Showing you now Defendant's Exhibit "333," Mr. Carmody, I ask you if that was prepared by you?

A. Yes, it was.

Q. And that was prepared, was it, from information that you got from the various records in your county?

A. Yes.

Q. And as a result of doing what?

A. Of checking over the records. I checked them all separately [fol. 461] and then I added them on the adding machine.

Q. And the last column of each page, what does that show?

A. It shows the amount of total transfers affecting——

Q. Affecting what?

A. Detroit Harbor, Rock Island and Chambers Island.

Q. And as to each item affecting the particular description opposite it, where it is situated?

A. Yes, the section, town and range.

Q. Defendant's Exhibit "333" correctly shows those computations that were made by you?

A. Yes.

Q. In order to obtain those figures was it necessary to check over a great many records, etc.?

A. It took us all of two weeks to go through them.

Q. Does it comprise a large number of records?

A. Yes, sometimes you don't find them all in the general tract index, and I checked them all over; sometimes they didn't correspond with the names, so I checked them all over to see that they were right.

Q. And the first six pages of this Exhibit 333 relate to which island?

A. To Washington Island—Detroit Harbor we always call it.

Q. And the next two sheets relate to what?

A. Chambers Island, and the next one is Rock Island.

Q. The last sheet is Rock Island?

A. Yes.

Q. And on the very last sheet of that exhibit have you computed the totals of the various transfers on the three islands?

[fol. 462] A. Yes.

Q. And those computations, are they correct?

A. Yes, according to the adding machine.

Mr. Rieser: We offer in evidence Exhibit 333.

Mr. Sawyer: Objected to as incompetent, irrelevant and immaterial.

Mr. Rieser: Now at the same time you were making those checks did you check over to determine with reference to the assessment of taxes in the records of Brown County?

A. Yes I did. Our assessment rolls did not show back the years—when I went back, I found 1841 in Brown County. Those were about the oldest assessment rolls that I found. I think I have the figures here. That shows where we started in Door County.

Q. Showing you now Defendant's Ex. 334, I will ask you whether or not that is a summary of the information you have obtained of the record of those assessments?

A. Yes.

Q. And is that a correct summary of that?

A. All we could find.

Q. And is that from what records?

A. Brown County.

Q. And is it correct information from those records for the years referred to in that exhibit?

A. Yes.

Q. And the description of property in that exhibit relates to what [fol. 463] Islands, if any?

A. This here was mostly Washington Island and some Chambers Island but nothing in Rock Island.

Q. Nothing in Rock Island?

A. Nothing in Rock Island.

Mr. Rieser: Offer Exhibit "334" in evidence.

Mr. Sawyer: Objected to as incompetent, irrelevant and immaterial.

Mr. Rieser: Mr. Carmody, did you also at that time check over some records with reference to the state census that had been taken?

A. Yes I have.

Q. Showing you Defendant's Exhibit "335," I will ask you whether or not that was prepared in the Brown County office at your direction?

A. Yes it was.

Q. And is that correct of the census that it refers to?

A. Yes.

Q. And of the records from which it was taken?

A. I looked over it and it was certified to by the Register of Deeds of Brown County.

Mr. Rieser: I offer Defendant's Exhibit 335 in evidence.

Mr. Sawyer: Objected to as incompetent, irrelevant and immaterial.

Mr. Rieser: Now what part of Door County did you live in before you became Register of Deeds?

A. I lived in the town of Egg Harbor.

Witness excused.

[fol. 464] The defendant to sustain the issues on its part offered the following evidence, to-wit:

Leo J. Evans, being duly sworn on behalf of defendant, testified as follows:

Direct examination by Mr. Rieser:

Q. Mr. Evans, where do you live?
A. Marinette, Wisconsin.
Q. How long have you lived in Marinette?
A. Forty-two years and better.
Q. And what is your business?
A. Abstracting real estate titles.
Q. You are the principal of the Marinette County Abstract and Title Company?
A. I am the president of that concern.
Q. Did the Marinette County Abstract and Title Company make a certain check of Marinette County with reference to certain islands in the Menominee River?
A. Yes.
Q. And was that work done under your direction?
A. Yes.
Q. And did you prepare a statement or summary of the information that you gathered?
A. We did.
Q. Showing you now Defendant's Exhibits "336" and "337," I will ask you whether they were prepared under your direction?
A. Yes.
[fol. 465] Q. And from records in Marinette County and what other county?
A. Oconto County.
Q. Was Marinette County part of Oconto County at one time?
A. Yes.
Q. When was that change made about?
A. March 1879.
Q. Now you say you checked over records both in Marinette County and Oconto County?
A. Yes.
Q. In order to get the information you have?
A. Yes.
Q. Now I will ask you to explain the various columns of Exhimit "336," as to what they show?
A. The first is the date of the entry of each piece. Next, the numbr of all transfers up to, I think it was, August last year when this was made. The date of earliest transfer. The number of Transfers for the first ten years from date of entry, and the date when the first taxes were paid.
Q. Now you have referred to—you have given the five columns nearest the right hand side of the page?
A. Yes.

Q. The other columns on the left hand side of the page are descriptions of the various tracts?

A. Yes and the acreage.

Q. Now Exhibit 337, what is that?

A. That represents the payment of taxes, or rather I would say [fol. 466] the years of taxation in periods of ten years, or thereabouts from date of entry.

Q. And that information again was taken from the records of Oconto and Marinette Counties?

A. No, I think this was all taken from Marinette.

Q. All taken from Marinette County?

A. Yes.

Q. And the exhibits 336 and 337 do they correctly show the information as taken from the various records?

A. They do.

Q. Now in the last column on the right hand side of Exhibit 336, you say "Date when first taxes were paid to the state of Wisconsin." Under that column, what does that refer to?

A. That refers to the years when the properties were first taxed. Sometimes they were paid and sometimes not paid, but they were entered on the tax rolls that year.

Mr. Rieser: We offer in evidence Defendant's Exhibits "336" and "337."

Mr. Sawyer: Objected to as incompetent, irrelevant and immaterial and also that it is too remote from the time and the conditions existing when the grant to the state of Michigan became effective.

Cross-examination by Mr. Sawyer:

Q. Mr. Evans, at the head of this list you call it a "List of surveyed Islands" and you give government descriptions as a descrip- [fol. 467] tion of the tract?

A. Yes.

Q. I would like to know whether in all cases some of these descriptions are on the islands or whether in some cases it is part of the shore description?

A. It is part of the shore description.

Q. And do you know whether in all cases the island was surveyed actually or just included in that description?

A. No, I couldn't say that.

Q. So you wouldn't want to say that all of the land comprised within the descriptions here is on islands?

A. No sir. Part of this is government lots bordering on the river.

Redirect examination by Mr. Rieser:

Q. But in each instance where you have a lot, there has been some island connected with it that was included in the original survey as part of that lot?

A. Where there is an island. There are a number of tracts where there are no islands connected with it.

Q. But all of these lots refer to places where there were islands connected with it, or there were islands?

A. In some instances islands connected with them and in some instances government sub-divisions bordering on the edge of the river with no island attached.

Witness excused.

[fol. 468] The defendant to sustain the issues on its part, offered the following evidence, to-wit:

FINN LAWLER, being duly sworn on behalf of defendant, testified as follows:

Direct examination by Mr. Rieser:

Q. Mr. Lawler, where do you live?

A. Eagle River, Vilas County.

Q. Vilas County Wisconsin?

A. Yes sir.

Q. How long have you lived at Eagle River?

A. Forty-nine years.

Q. That made you come to that country what time, what year?

A. Well, I came to Northern Wisconsin in '69. I have not resided at Eagle River that length of time.

Q. What part of Northern Wisconsin, did you first come to?

A. What is now Forest County, near Crandon.

Q. And what county was that at that time?

A. I believe that was Oconto at that time.

Q. And when did you move into your present county, Vilas County?

A. For permanent residence in '75. I was a kind of a free lance from '72 on.

Q. Doing what?

A. Woods working, estimating timber and cruising.

Q. And what is your business now?

A. I am in the abstract business.

Q. How long have you been in the abstract business?

[fol. 469] A. Twenty-four years.

Q. Are you familiar with the records of your county? The title records?

A. Yes sir.

Q. And do you keep in your own office as part of your records, a tract index?

A. Yes.

Q. You have the only tract index in that county,—is that true?

A. Yes.

Q. Did you check over the records in Vilas county with reference to transfers of property bordering on what is known as the boundary line?

A. Yes.

Q. And within an area between that boundary line and along about the line that is claimed in the present lawsuit?

A. Yes.

Q. And the region in between them?

A. Yes exclusive of—I didn't put any articles of incorporation or mortgages or satisfactions of mortgages—just conveyances.

Q. That would be transfers of title?

A. Yes sir.

Q. Are you familiar with that region, and particularly that strip of land in that region along the boundary, to know about how long the state of Wisconsin has been assessing taxes in that region?

Mr. Sawyer: Objected to on the ground the records are the best evidence.

[fol. 470] A. They have been assessed for forty years when it belonged to Lincoln county.

Q. Vilas County was a part of Lincoln county before it became Vilas county?

A. Yes; they formed the county of Oneida from the county of Lincoln, including the present south boundary to the state line, and in 1892 the county of Vilas was formed, or about that time.

Q. In your check of property within the strip you have referred to, you made that check from the records in Vilas county?

A. I did, yes.

Q. Now I show you Defendant's Exhibit "338" and ask you whether that's a summary of the investigation you made?

A. It is.

Q. And that correctly shows the various entries as you found them when you made your check?

A. Yes.

Q. And that check was made down to and including about what date, Mr. Lawler?

A. I have really forgotten. I think it was sometime in August.

Q. 1924?

A. Yes sir.

Mr. Rieser: Defendant's Exhibit 338 offered in evidence.

Mr. Sawyer: Objected to for the reason it is too remote from the [fol. 471] time and the conditions existing when the grant to the state of Michigan became effective, and that it is incompetent, irrelevant and immaterial.

Mr. Rieser: Mr. Lawler, the transfers and conveyances that you checked over, do they cover a period of very recent date, or do they go way back to the time of the entry?

A. Time of the entry.

Q. And about when were most of the entries in your county made?

A. Along in the seventies.

Mr. Sawyer: We make the objection to that question, that the record should be the best evidence.

Mr. Rieser: Mr. Lawler, when you came up to that country had

the so-called Military Road running from Oconto been built through that country?

A. That was from Green Bay.

Q. Yes, from Green Bay?

A. That was built in Wisconsin before I came into that country. If I recollect right, the road in Wisconsin, that so-called Military Roard was completed to the State Line in '77.

Cross-examination by Mr. Sawyer:

Q. That was the Green Bay and Bay de Noc State road?

A. Green Bay and Ontonagon. It went to Shawano and Menominee Range and posts in our county, the east side of Range 11 and west side of Lake Vieux Desert.

[fol. 472] By Mr. Rieser:

Q. And was it open on up into Michigan while you were up in that country there?

A. Yes sir.

Q. And that road, did you say goes which side of Lac Vieux Desert?

A. On the west side. It crossed just at the outlet of Lac Vieux Desert where the Wisconsin River rises. That's the head of the Wisconsin river.

Q. Have you been familiar with that country ever since you have been there?

A. Yes, quite generally.

Q. With the names of various places?

A. Yes sir.

Q. Have you ever heard of more than one lake up in that region being called Lac Vieux Desert?

Mr. Sawyer: Objected to for the reason that it is too remote from the time and the conditions existing when the grant to the State of Michigan became effective.

A. No sir, not yet.

Q. And the lake that you know as Lac Vieux Desert, where is that with reference to the boundary line as it is laid out between Michigan and Wisconsin.

A. The boundary line crosses it; that is the present boundary line crosses it.

Q. Mr. Lawler, are you familiar with what is commonly known as Alvord Creek, rising in the northeast part of Vilas County?

[fol. 473] A. Yes, I have fished trout in it.

Q. And are you familiar enough with it to know where the principal tributary rises?

A. Yes sir.

Q. Where?

A. Here in Wisconsin.

Q. And where with reference to the boundary line as now run out?

A. Short distance south of it.
Q. About how far would you say?
A. Half a mile.
Q. And how far from the eastern line of Vilas County?
A. Less than eighty rods.
Q. And where does Alvord Creek lead to?
A. It leads in an easterly direction.
Q. Do you know whether it leads into the Brule River?
A. I never saw the mouth of it.
Q. Have you always understood that it did lead to the Brule River?
A. Yes.
Q. And it rises immediately East of Sand Lake, is that right?
A. Yes. There is one little branch here. (Indicating on map.)
Q. When you say here, that is in section what?
A. Section 12, Township 41, Range 12. That is this branch.
Q. And the other branch rises in section 36, township 42, range 12, is that right?
A. Yes.
[fol. 474] Q. And do you know of any other tributary of the Brule river that rises west of that point?
A. I don't.
Q. Have you ever heard of any?
A. This probably does—it runs east also.
Q. You refer now to a lake known by what name?
A. Kentuck.
Q. And that rises on the town line in sections 40 and 41?
A. Yes, and in range 12.

Cross-examination by Mr. Sawyer:

Q. Now Mr. Lawler, these three little lakes to the west of Kentuck Lake also drain into Kentuck Lake?
A. Yes.
Q. And the most westerly point of the Third Lake called Lake Imogene is very near the Range Line, is it not?
A. Yes.
Q. That would be some six miles more westerly than this one?
A. Yes, about six miles—five miles.
Q. And the memorandum on this map which reads "Beaver Bog" "No Lake", have you personally seen that?
A. Yes.
Q. That's a large Beaver Bog?
A. Yes, swamp.
Q. Does not the road which comes from the International Bridge pass close to that Beaver Bog?
A. Some place you find this bog.
[fol. 475] Q. And that would be a more westerly source of the Brule River than this point you refer to in Township 42 north of Range 12?
A. Yes.

Mr. Rieser: But it would be farther away from Lac Vieux Desert than the point you have just indicated?
A. Yes.

Mr. Sawyer: Can you say which of these points would be farthest from Island Lake or which would be nearest to Island Lake, in Wisconsin?
A. Let me see, which Island Lake you mean there?
Q. Island Lake is over in the next county. Island Lake is down below Pine Lake in about this position (Indicating)?
A. What I mean—here is what I had reference to—here is an Island Lake. (Indicating).
Q. That is not the one I refer to.

Mr. Rieser: Exhibit "340" map of Vilas County offered in evidence.
Mr. Sawyer: No objection.
Mr. Sawyer: As to Exhibit "339" It is admitted by plaintiff that the exhibit is a correct compilation of information taken from the records in the office of the Register of Deeds of Forest County, Wisconsin, and that so far as the said records are correct, the information therein contained is correct.
Mr. Rieser: We now offer in evidence "Exhibit 339".
Mr. Sawyer: We object to the admission on the ground it is [fol. 476] incompetent, irrelevant and immaterial, and that it is too remote from the time and the conditions existing when the grant to the State of Michigan became effective.

Witness excused.

The defendant to sustain the issues on its part, then offered the following evidence to-wit:

R. C. Trembath, being duly sworn on behalf of defendant, testified as follows:

Direct examination by Mr. Rieser:

Q. Mr. Trembath, where do you live?
A. I live at Hurley, Wisconsin.
Q. How long have you lived in Hurley?
A. All my life for the last thirty years.
Q. And what business are you engaged in now?
A. At present I am Assemblyman representing Iron and Vilas Counties, Wisconsin.
Q. Iron and Vilas Counties, Wisconsin?
A. Yes sir.
Q. And prior to January 1st, 1925, what office did you hold, if any, in Iron County?
A. Prior to January 1st, 1925, I held the office of Register of Deeds.
Q. About how many years did you hold that office?

A. Eight years.

Q. What is the county seat of Iron County, Wisconsin?

[fol. 477] A. Hurley, Wisconsin.

Q. Did you at the request of the defendants in this case prepare a statement of the numbers of entries or transfers relating to various pieces of property in the strip affected by the litigation in this case?

A. I did.

Q. And did you prepare summaries of the investigation that you made?

A. I did.

Q. And are the summaries that you have prepared correct and true?

A. Yes.

Q. Correctly show as to what your records of your county show affecting each of the descriptions shown on the summary you have prepared?

A. They do.

Q. Showing you Defendant's Exhibit "341", I will ask you whether or not that is the summary you have prepared?

A. Yes it is.

Q. And that took in transfer from what time on to what time?

A. That took in the transfers from the time the land was deeded by the government up to the time I made the computation.

Q. And you made your computation when?

A. In the fall of '24.

Mr. Rieser: We offer in evidence Defendant's Exhibit "341".

[fol. 478] Mr. Sawyer: Objected to as incompetent, irrelevant and immaterial and also that it is too remote from the time and the conditions existing when the grant to the State of Michigan became effective.

Witness excused.

The defendant to sustain the issues on its part, then offered the following evidence, to-wit:

STEPHEN B. SOULE, being duly sworn on behalf of defendant, testified as follows:

Direct examination by Mr. Rieser:

Q Mr. Soule, where do you live?

A. In Madison.

Q. How long have you lived in Madison?

A. Since July, 1918.

Q. And what is your profession?

A. I am a hydraulic engineer.

Q. How long have you been working at that business?

A. About twelve years.

Q. And whom are you employed by at the present time?

A. The United States Government.

Q. In what capacity?

A. I am at present the district engineer of the Water Resources Branch of the United States Geologic Survey.

Q. And where do you have your office

A. At Madison.

Q. Do you have your office in connection with the Railroad Com-
[fol. 479] mission of Wisconsin?

A. Yes.

Q. And does the United States Geologic Survey cooperate with the Railroad Commission of Wisconsin in making certain investigations as to stream flow?

A. It does.

Q. How long have you been in the present position?

A. About three or four years. I can't be certain as to just how long I have been in charge of the office.

Q. I will show you Plaintiff's Exhibit 108 and ask you whether or not the data prepared or given in that exhibit was prepared under your direction as part of your duties, so far as it relates to stream flow records in the Montreal River and the West Branch of the Montreal?

A. The data is data that was prepared for publication in Federal Reports, and a portion of it had been published and a portion of it had not been published at the time this data was prepared, but it was prepared for publication.

Mr. Sawyer: I ask to strike that out as not being responsive.

Mr. Rieser: And for what use?

A. For publication and Federal Reports, and also for the use of the co-operating parties.

Q. Who determined the drainage area of the Montreal River and the West Branch of the Montreal River as appears on Exhibit 108?

A. I cannot answer that exactly. They were prepared under
[fol. 480] the direction of my predecessor.

Q. And were they checked over by you?

A. I think not.

Q At the time Exhibit 108 was being prepared, did you make a check of the drainage area of the two streams?

A. Yes.

Q. To determine whether that drainage area was correct?

A. I did.

Q. What did you find?

A. I found there was considerable error in the drainage area due to incorrect maps.

Q. And did you then make a note showing the correction of the drainage area?

A. Yes.

Q. Calling your attention to page 318, I will ask you what that note refers to in the middle of the page?

A. It is merely a statement that the discharge number of square miles is based upon the original drainage area instead of the correct drainage area.

Q. What is the original drainage area?

A. Seventy square miles.

Q. And that refers to what river?

A. The West Branch of the Montreal.

Q. And what was the actual drainage area?

A. Sixty-six square miles. No, excuse me, on the West Branch there was seventy-eight square miles as revised.

Q. Seventy-eight square miles as revised?

A. Yes.

[fol. 481] Q. And on the Montreal River, it was what?

A. Sixty-six.

Q. And what was it on the Montreal river before revised?

A. My memory is that it was seventy-one.

Q. Can you by referring to the report determine that?

A. Seventy-three.

Q. So that the correction as to the Montreal River,—the drainage area was increased from Sixty to seventy-three square miles?

A. No. The Montreal, it was reduced from seventy-three to sixty-six; revised at sixty-six.

Q. And from the West Branch?

A. It was increased from seventy to seventy-eight.

Q. Now, that was the drainage area, Mr. Soule, on what part of the river?

A. That portion of the stream in each case above the gauging station.

Q. Did not take in the entire area down to the confluence of the two streams?

A. No sir.

Q. Now as a result of that correction, what columns of the various pages of Exhibit 108 would have to be changed or corrected?

A. Columns 4 and 5 on page 311—"The discharge in second feet per square mile;" and the column "Run off in Depth in inches on Drainage Area;" also the same columns on page 312, 317 and 318.

[fol. 482] Q. Have you prepared corrected summaries covering those summaries?

A. Yes there have been corrected monthly discharge.

Q. You have prepared corrected monthly discharge figures covering the data covered in Exhibit 108?

A. Yes.

Q. In the light of the correction made in the drainage area, is that right?

A. Yes.

Q. And so far as the columns that you have referred to, that would have to be corrected on a monthly basis,—the corrected figures show the proper correction in view of that change in the drainage area do they?

A. They do.

Q. Now I will show you Defendant's Exhibits Nos. 343, 343a- b- c- d- e-, and 342, 342a- b- c- d-, and I will ask you what columns on Exhibit 108, the figures you have in the Exhibits just mentioned take the place of?

A. The two right hand columns of the figures in the exhibit are to supersede the figures in the corresponding columns in Exhibit 108.

Q. That is the two right hand columns of Exhibits 342 and 343 is that right?

A. Yes. I do not know whether these include a year that is not published in Exhibit 108 or not. Yes, those correspond to the figures in Exhibit 108.

[fol. 483] Q. Now, Mr. Soule, in determining the relative size of streams is it the practice in your department, to take into consideration the drainage area of those streams?

Mr. Sawyer: Objected to, as his department does not determine the relative size of streams.

A. You mean under similar conditions of run-off the streams are proportioned to their drainage areas?

Mr. Rieser: Would that be true, where streams are located as close to each other as these two streams are?

A. I should expect it to be.

Q. And what is the purpose generally of your investigation with reference to stream flow,—has it anything to do in other words in determining the size of the stream?

A. No.

Q. Now after the publication of Exhibit 108, did you continue to maintain the gauging stations at the two points at which they were maintained while the figures for Exhibit 108 were prepared?

A. The gauging station on the West Branch was continued. The gauging station on the main Montreal was discontinued I think earlier than 1923, the date at which these figures were brought down.

Q. It was discontinued you say?

A. Yes, discontinued.

Q. And was the gauging equipment replaced there somewhat later?

A. The observation was. The gauging equipment had never been removed. The observation was recommended in 1924, sometime in July.

[fol. 484] Q. In July, 1924?

A. Yes sir.

Q. Now, did it continue on the West Branch throughout the period from 1918 to 1924?

A. It did.

Q. At the Ironwood Station, it was discontinued from what time to what time, about?

A. Why, I haven't in mind. It will show in this exhibit as to when it was discontinued,—June 6, 1922, and from that date until July, 1924.

Q. Now then have you the figures of the readings subsequent to publication of this book concerning each stream?

A. I have.

Q. Have you those with you?

A. I have.

Q. Will you produce those?

A. I will.

Q. Showing you now Exhibits 344-345, I will ask you what they are?

A. Exhibit 344 are sheets giving the gauge height and discharge of the West Branch of the Montreal from October 1st, 1923, to December 6, 1924, and also the computation of the mesne monthly discharge and discharge in second feet per square mile and run-off and depth in inches and maximum and minimum for the month.

Q. And that refers to Exhibits 344 and 345?

A. Yes.

[fol. 485] Q. And in other words brings the information referring to the West Branch of the Montreal as contained in Exhibit 16 down to date?

A. Down to December 6th, 1924.

Mr. Rieser: We offer in evidence Exhibits 344 and 345.

Mr. Sawyer: I reserve the right to introduce an objection after I have looked them over.

Q. Showing you Exhibits 346 and 347, I will ask you what they are?

A. They are the daily gauge height and discharge on the Montreal at Ironwood from July 17, 1924, to December 6, 1924, together with the mesne monthly discharge in second feet per square mile, the run-off, in depth in inches and the maximum and minimum per month.

Q. In other words, containing the same information as to the Montreal as contained in Exhibits 344 and 345 as to the West Branch of the Montreal River?

A. Yes.

Q. For the period you have just referred to?

A. Yes.

Q. Now Mr. Soule, did you also place some gauges at the confluence of the two rivers?

A. I did.

Q. When were those gauges placed?

A. About June 26, 1924.

Q. Were those gauges placed under your direction?

A. Yes.

[fol. 486] Q. Where were they placed as to the confluence of the West Branch of the Montreal River with the Montreal River?

A. They were placed a short distance above the confluence, as I remember it now, I would say that the West Branch was perhaps a quarter of a mile above the confluence, and either one or both of them were not far from the confluence.

Q. And were those gauging stations maintained there for any period of time?

A. They were maintained from the day when they were established to early in December.

Q. Is it possible to maintain those gauges in the winter time?

A. It is not possible to get at the results of discharge without numerous measurements through the ice.

Q. Now what kind of gauges were used in this kind of work?

A. The vertical staff graded in feet and tenths, that is the bottom of the staff being in the river, and were read by reading a point on the graduation at which the surface of the water was at the time of reading.

Q. Is that the gauge that is used by the Government generally for this kind of work?

A. It is one type of gauge that is used, yes.

Q. Is that the stream gauge or current gauge, or what do you call it?

A. It is a river gauge.

[fol. 487] Q. And can you say as to the figures and accuracy obtained by that kind of a gauge as compared with a float gauge?

A. The float gauge, meaning an automatic recording gauge, will give a continuous record of the stage, and in cases where there are rapid changes in stage during the day, give better results, but where there are not rapid changes in stages during the day, the staff gauge as we call it, is practically as satisfactory.

Q. From your knowledge of this river, would you say that the gauge that you used is as satisfactory as the one you just described?

A. Generally, yes.

Q. And how do you measure the stream flow—by what kind of system?

A. The volume of discharge is measured by the use of what is called the current meter, which gives the velocity of the water at the points at which it is held and by the means of the tag line, by which you locate the measuring points from point to point across the stream. The velocity and depth is taken at numerous points described as a certain distance from an initial point measured on this tag line, and this data enables us to determine the area of the moving section of water and the velocity at which it is moving, from which is computed the number of cubic feet per second.

Q. Are you also familiar with the float method of measuring the flow of a stream?

[fol. 488] A. Somewhat.

Q. How do the two compare?

A. The current meter method is much more accurate than the float method.

Q. And have you ever used the float method in stream gauging down in that vicinity?

A. No sir, the survey does not make a practice of determining discharge by float method except where it is impossible to use the current meter method.

Q. Now will you explain how the discharge in the stream is determined by means of the two devices you were using on the two rivers, the current meter and the stream gauge?

A. The gauge is established and measurements of discharge are made at various stages in the river as they become available. At

the same time, the stage is noted in connection with the measurements. From this data is plotted what is known as the rating curve. This rating curve defines the relation between the stage and the volume of discharge. A local observer reads the gauge height daily and from this daily record of gauge height and rating curve, we obtain the daily discharge of the stream.

Q. And your rating curve will show the amount of water discharged at a given height shown on the stream gauge, is that right?

A. Yes.

[fol. 489] Q. What was your practice with regard to reading your gauge height near the confluence of the two rivers in 1924 with reference to the number of times the readings were made?

A. The readings were made twice a day.

Q. Now have you prepared a result of the readings, or computed the result of those readings at the confluence, covering both streams?

A. Yes.

Q. Show you now Defendant's Exhibits 348 and 349 and I will ask you what they are?

A. Exhibit 348 is the daily discharge on the West Branch of the Montreal River above the mouth from June 26th to December 7th.

Q. 1924?

A. 1924. And Exhibit 349 is the daily discharge of the Montreal River above the mouth of the West Branch from June 26th, to December 8th, 1924.

Q. Now are the figures that appear on Exhibits 348 and 349 computations in the light of drainage area, or do they represent actual discharge?

A. They represent actual discharge.

Q. And correctly show the readings as they were taken from day to day at the two stations?

A. The interpretations of the readings. They are not gauge readings. They are the discharge corresponding to the gauge readings.

[fol. 490] Q. They are the discharge applied to the rating curve you have referred to?

A. The gauge height applied to the rating curve gives us the resulting discharge as recorded on those exhibits.

Q. And for the two stations, you say you established above the confluence of the two rivers in June, 1924, is that right?

A. Yes.

Mr. Rieser: We offer in evidence Defendant's Exhibits 348 and 349.

Mr. Sawyer: Objected to primarily for the reason that they are computations based upon figures which are not offered in evidence with them, and for the further reason—I would like to put in a further objection later on.

Witness: We can furnish the gauge heights and the rating tables from which this work is done. I left out one step in the description of the actual work of getting the discharge after plotting the

rating curve. We, for convenience, reduced that to a table, which we can furnish.

Mr. Rieser: Mr. Soule, the readings were made under your direction were they?

A. Yes.

Q. And were checked from time to time by you?

A. Yes.

[fol. 491] Q. And were the readings accepted by your Department and the Government and used for the purpose of making your records?

A. They were.

Mr. Rieser: We will say that the rating curve and the rating table and the gauge heights are available and will be available for cross examination and for examination at any time counsel want them.

Cross-examination by Mr. Sawyer:

Q. Mr. Soule, you said in connection with your direct examination that some of these figures were prepared under the direction of your predecessor. Is that true as to all the figures in Exhibit 108?

A. The discharge data do you refer to?

Q. Yes.

A. No, the latter part of it was prepared under my direction.

Q. Then the figures in the first three columns of Exhibit 108 which you said were not changed, you are satisfied that they are accurate?

A. Yes sir.

Q. And since that time have you made any further check on the drainage area of these two streams?

A. I have.

Q. And you are satisfied that your findings on that as corrected, are correct?

[fol. 492] A. I am satisfied that they are as correct as available maps will permit.

Q. Then you are satisfied that the correct drainage area as near as you can arrive at it, is for the east branch 66 and for the west branch 78 square miles?

A. Above the gauging stations.

Q. Did you make any further computations on the drainage area of either branch down to the point of gauging in Exhibits 348 and 349?

A. I did not personally make any.

Q. Do you know what the reason for discontinuing the station on the East Branch was?

A. The station was originally established in co-operation with one of the Iron Mining Companies and largely at their request, and their co-operation ceased and we did not feel that it was advisable to continue.

Q. The usual purpose of your establishing a station to gauge a stream, is for the purpose of determining what its flow is for water power?

A. That's one of the important purposes. There are many other purposes for which stream gauging data is obtained.

Q. And the fact that you continued the gauging on the West Branch would indicate that you thought that stream would be of some value as a water power?

A. No. Both of these stations were established at the request of [fol. 493] the iron interests up there and by their co-operation and the principal object, as I have been told, for their wishing the data, was in the expectation of finding ore bodies that would be interfered with by the streams; probably the streams would have to be carried in flumes, or in some other way disposed of, because those stations, as I have understood it, were not established with reference to water power.

Q. That was not the moving factor?

A. No, that was not the prime factor.

Q. In your testimony you stated that conditions being the same, the volume of the two streams would compare in relation to their drainage area. What do you mean there by conditions being the same? Does that refer to rain fall or did the source of supply have something to do with that?

A. It would not refer entirely to rainfall—the soil conditions and slope and vegetation and numerous conditions.

Q. Possibly underground sources of supply—springs I mean?

A. Yes.

Q. So the fact that these two streams lie directly contiguous would not necessarily mean that the conditions were the same in the valleys of the two streams?

A. No.

Q. Have you ever personally examined the valleys of these two streams to determine the conditions?

A. Not to any extent.

[fol. 494] Q. So that you would not want now to say that the drainage area of the two streams would determine which of the two streams had the greater discharge?

A. I have not gone into that subject sufficiently to say that.

Q. In speaking of the gaging employed, Mr. Soule, how long were your current readings taken for the purpose of plotting your rating curve or rating table from the stations below or near the confluence?

A. Do you mean for how many months they extended?

Q. Yes.

A. From the time the gauges were installed until rather late in the fall; I don't remember the last date of reading.

Q. Was there a daily reading of the current meter as well as the staff?

A. No.

Q. How often would the current meter be taken?

A. That depended on the stage, the object being to get current meter measurements at varying stages so as to define the curve throughout, and there is no stated time at which the current meter measurements were obtained.

Q. Did the comparative results of discharge in Exhibit 108 and in

your Exhibits 348 and 349 vary as between the two branches of the streams or as they call them the Montreal and the West Branch?

A. I don't know as I quite get the drift of that question.

[fol. 495] Q. That is, are the comparative figures in Exhibit 108 as to the discharge of these two rivers changed by the figures in these two exhibits?

A. I don't think so materially; I haven't gone into that very thoroughly, but I don't think so.

Q. Was the rating curve or rating table used in compiling the figures in Exhibit 108, changed or different from the one used in compiling these figures?

A. No sir. We checked it from current meter measurements and found it was applicable.

Q. When you made the change in regard to that drainage area, Mr. Soule, what map was it you used to check up on?

A. We used a variety of maps, largely being guided by township plats of the government survey as platted onto theirs, and in Michigan I think it was the map furnished.

Q. By counsel in this case?

A. I think that was the case, yes, and as checked over from township plats; and in Wisconson, I think it was largely soil maps. I don't know whether those are exhibits in this case or not.

Q. In determining this drainage area, Mr. Soule, there was no survey made to determine the water-shed or divide between the two streams?

A. No formal survey of any great expanse; there was a slight reconnaissance made to determine what way certain streams that appeared on the map discharged.

[fol. 496] Q. So that the drainage area given might vary to a certain degree?

A. Oh yes.

Q. Could you estimate in percentage what the maximum variation in determining that would be?

A. That would be very hard to do.

Q. Or bring it down to, in this case, how many square miles might it be off in their figuring?

A. I think the final figures would be correct within five or six square miles.

Q. And that might be either way, depending on conditions of which you have no knowledge from the map, is that not true?

A. Yes.

Q. Are you familiar at all Mr. Soule, with the Weir method of taking stream flow?

A. I am.

Q. That is a much more accurate method properly handled?

A. Where very accurately done, it is somewhat more accurate than the current meter method, but unless specially done with great care and great care is used in the determination, it is not as accurate as the current meter method.

Q. In the current meter method, it becomes necessary to determine the area of a cross section of the stream at all times?

A. At each time.

[fol. 497] Q. In other words, you must determine the area of that cross section of the stream by the staff reading or staff gauge?

A. No; by soundings taken at the time when measurement is made and at the same point measurement is made.

Q. Isn't it a fact you take soundings clear across the stream at the same time and plot the bottom of it, so that in some way you can arrive at the exact reading of the cross section from the reading of the staff?

A. No.

Q. Do you have to compute that cross section for each reading?

A. Well, the question is with regard to getting the discharge for each day.

Q. Yes?

A. We don't go into the matter of cross sectional area and velocity for each daily discharge, it is only when we are making the measurements with the meter.

Q. That you go into the question of area?

A. Of area and velocity. The relation between the stage as read on the staff gauge, and the discharge as a whole which involves both area and velocity is determined.

Q. That is determined in your rating table?

A. Yes, in your rating curve and table.

Q. Now then, the accuracy of that depends on the accuracy of your determining the cross section of the stream at that time?

[fol. 498] A. It depends on the accuracy of the discharge measurement.

Q. Which include the measurement of the cross section of the stream?

A. Yes, includes the measurement of the depth and velocity at each point.

Q. Now then a stream with an irregular bottom, would admit of considerable inaccuracy in that figure?

A. The more irregular the bottom, the more inaccurate the result, but that can largely be avoided by taking sufficient soundings close together in the cross section. That's what we have to do when we are not able to secure a smooth bottom.

Q. Do you remember how far apart the soundings were taken in the computing of the cross section in these stations at the confluence?

A. They varied in different cases. In some places as close together as two feet, and I don't know but what in some cases one foot. My assistant made the most of these measurements and perhaps he can tell you just what he did.

Q. These figures that are given on Exhibit 348 and 349 to which figures on Exhibit 108 would they be a continuance, which column of figures?

A. To the table of daily discharge. They correspond with the second column in each case of these figures.

Question repeated: These figures that are given on Exhibit 348 and 349, to which figures on Exhibit 108 would they be a continuance, which column of figures?

[fol. 499] A. They are not a continuance of any of the figures in Exhibit 108, because neither of those stations appear in Exhibit 108.

Q. But they correspond to this other?

A. They correspond.

Q. And have you figured the mesne and average discharge?

A. I have not.

Q. Is the period from June to December a fair period to determine the relative size of these streams?

A. Well, of course, it is not as satisfactory as a complete year would be, but it is I think fairly representative.

Q. Is it or is it not the case that local rainfall conditions might even change the readings for one year as compared with another year?

A. Oh yes.

Q. And that the readings over a series of years would be more satisfactory than the readings for one year averaged up?

A. Yes.

Q. Do you know Mr. Soule, at the time these readings were being taken in 1924, at the confluence, was there any water being pumped out by the city of Ironwood?

A. I don't know. I have understood that the city of Ironwood got their water supply from the Montreal, and that their sewerage discharged into the Montreal.

Q. Do you know whether or not all the water supply of Ironwood comes from the Montreal, or whether a portion of it came [fol. 500] from wells?

A. I don't know.

Q. Do you know anything about the amount of mine water that was being discharged into either branch at that time?

A. I don't know.

Q. I ask you whether the rating table of the new station was the same or approximately the same as the rating table or rating curve used at the old station?

A. No, there is no relation at all. I didn't get your question. Each gauging location requires an entirely independent rating curve or rating table. I didn't get your question at all.

Q. Were you to establish two stations on each of two streams, or two stations on the same stream, would not the rating curve be the same for both of those stations?

A. At two different points on the stream?

Q. Yes?

A. In general, no.

Q. That is provided one was within a short distance of the other?

A. That would depend entirely upon the channel conditions below each gauge.

Q. That is because of the cross section entering into the ratio?

[fol. 501] A. There is in general a point below the gauge, or it might be right at the gauge, which determines the relation between

the discharge and the stage, and in two different localities of the same river, those channel conditions would not be comparable at all. Necessarily so, if one should have occasion to move a gauging station from one point to another on the river, in general, it has an entirely new staff with a new rating curve and rating table, and in this case where there is so much variation in the channel from one point to another, there would be absolutely no connection whatever.

Q. Referring to the second report of water power of the Railroad Commission of Wisconsin, 1914-1923, from which Exhibit 108 was taken, did you have charge of the preparation of that book?

A. I had charge of the preparation of the stream flow data.

Q. That is in this book?

A. Yes. It was the same data that was prepared for the publication in the Federal Reports and up to a certain date had been already published in those reports.

Q. Now then, the correction which you made on Exhibit 108 would have no effect on the actual stream flow?

A. In the total volume.

Q. And the engineer computing the relation of the two streams from that table, his figures would not have been affected by that [fol. 502] table, computed on the average of the mesne actual discharge?

A. There would have been no difference. The change in drainage area had no affect on the total discharge.

Q. The only change that you made in those figures was to change the computed figures in the last two columns, or by a change in the drainage area?

A. Drainage district. The column giving the mesne discharge and the column preceding are the same, are not affected by the provision.

Q. And the information by which you made this correction is contained in connection with the table, so that an engineer would have done the same thing had he needed to use those figures?

A. Yes.

Redirect examination by Mr. Rieser:

Q. Mr. Soule, you said in making your correction of the drainage areas,—which maps did you say you referred to?

A. The outline of the drainage area was largely controlled from township plats of government survey. The map that was used was the soil map that was platted in Wisconsin and the map of Michigan, exhibit in the Michigan side of the case.

Q. What do you mean by the Michigan exhibit?

A. The map that they furnished—that they submitted in their exhibit, as I understood.

Q. Was that used Mr. Soule for determining the correction of the [fol. 503] drainage area as published in Exhibit 108, are you sure of that?

A. No, I am not sure of that.

Q. When was Exhibit 108 published, if you know?

A. In June, 1924.

Q. And the hearings at which the Plaintiff's map with reference to the printed area was submitted were held in August and September, 1924; and from that fact would you say that that map entered into that computation at all?

A. No.

Witness excused.

The defendant to sustain the issues on its part, then offered the following evidence, to-wit:

FRITS CHRISTOPHERSON, being duly sworn on behalf of defendant, testified as follows:

Direct examination by Mr. Rieser:

Q. Mr. Christopherson, where do you live?

A. 448 West Washington, Madison.

Q. And what is your business or profession?

A. Junior Engineer Water Resources Branch, United States Geological Survey.

Q. How long have you been with that Department?

A. Since February, 1924.

[fol. 504] Q. Did you assist in the determination of the stream flow of the confluence of the West Branch of the Montreal River and the Montreal River in 1924?

A. Yes sir.

Q. And in the establishment of gauges there?

A. Yes.

Q. And in taking cross sections of the stream from time to time?

A. Yes sir.

Q. And in taking measurements of the rate of flow of the streams?

A. Yes sir.

Q. Did you also go above the gauge on the Montreal River to a point referred to as the mouth of Spring Creek?

A. Yes.

Q. Were you up there many times?

A. I was up there twice.

Q. When was that, do you recall?

A. On the 12th of October and also on the 30th of October, 1924.

Q. And what did you find at that time as to whether or not Spring Creek was—had water in it at that time—discharging water?

A. On the 12th of October when I was there, it had 27.2 second feet.

Q. And on the 30th what did you find?

A. I found 3.6 second feet.

Q. You have given considerable study to the matter of streams [fol. 505] and stream flow in your experience in the last two years?

A. Yes I have.

Q. Are you able to say from the nature of the flow in Spring

Creek and from the nature of the Creek, whether or not that is a creek that dries up in a great portion of the year?

A. No, I don't believe it does.

Cross-examination by Mr. Sawyer:

Q. In taking the cross-sections there at the confluence, Mr. Christopherson, how wide a portion of the bed of the stream did you use for the cross section as relates to the bank? Was it from bank to bank or did you go back of the bank?

A. When I took the measurements I went from a place where the water and the bank meets.

Q. At whatever stage the water was, you went from the edge of the water to the other edge?

A. Yes.

Q. During the time you were taking these measurements, what was the general condition of the two rivers with regard as to whether they are always within their banks or overflowing?

A. At the place where I took the measurements, the entire stream passed between the banks.

Q. You never saw the river flow over the banks of either stream?

[fol. 506] A. Not at the place where I took the measurements.

Q. Speaking of Spring Creek, where did you take these measurements, at the point where the creek enters into the East branch of the Montreal?

A. About 100 feet above that.

Q. Did you see the gravel bed from which the city of Ironwood pumps its water?

A. Yes.

Q. Was the city pumping water from there at the time you took these measurements, do you know?

A. I infer they were, I didn't see the pumps.

Q. Your statement that you don't think Spring Creek is the kind of creek that dries up is made from your knowledge of creeks generally and not from your knowledge of that particular creek?

A. Well, I saw about five miles of that creek, saw the country near it and I saw springs there, and as far as I know anything about creeks, it is just like any other ordinary creek.

Q. It evidently obtains its name from the springs?

A. Yes.

Q. Do you know whether any of those springs are caused by the pumping of mine water?

A. No I don't.

Q. Do you know whether any mine water was being discharged into the stream at that time? Was it clear, do you know?

A. It seemed clear.

[fol. 507] Q. Did you discover that from the point where the city was pumping or below that?

A. What do you mean?

Q. At the point where the city is pumping from the gravel bed, it is entirely blocked off, isn't it?

A. Yes.

Q. And what water there is emptying from that creek into the East Branch of the Montreal, comes out of the ground below the gravel bed and into the creek?

A. No, there is a weir shape or spillway, at which the portion for use by the city passes over.

Q. Was there water running over that spillway on the days you took these measurements?

A. Yes.

Q. Do you recollect whether or not that was at times when there had been rains?

A. From the measurements on October 12th, there had been rains previously, and on the 30th there had not been extensive rains.

Q. Are you sure there was water running over that spillway at the time you took the measurements on the 30th?

A. No, I didn't visit the pumping station at that time.

Q. If you were told by the hydraulic engineer who had lived his entire life in that vicinity that prior to establishing of the gravel bed pumping plant, that it was dry a greater portion of the year, would you have any reason to doubt his statement?

Mr. Rieser: Objected to for the reason that it calls for conclusion [fol. 508] of the witness, incompetent, irrelevant and immaterial, and improper cross examination, and assuming facts not in evidence.

Mr. Sawyer: What I want to know is whether or not there is anything in relation to the character of the valley of that creek, which you noticed, which would make you believe an engineer telling you that fact was not telling the truth?

Mr. Rieser: Objected to for the further reason that the latter question assumes something that was not assumed in the previous question and is clearly assuming something that is not in the record.

Mr. Sawyer: Strike out the last question and ask for an answer to the first question.

Question read as follows: If you were told by the hydraulic engineer who had lived his entire life in that vicinity that prior to establishing of the gravel bed pumping plant, that it was dry a greater portion of the year, would you have any reason to doubt his statement?

A. No, I wouldn't have any reason to doubt his statement, but I would not believe that it was so.

Witness excused.

[fol. 509] The defendant to sustain the issues on its part, offered the following evidence, to-wit:

GEORGE STEINMETZ, being first duly sworn on behalf of defendant, testified as follows:

Direct examination by Mr. Rieser:

Q. Where do you live Mr. Steinmetz?
A. In Madison.
Q. What is your profession?
A. Engineer.
Q. A graduate of what school?
A. Wisconsin University.
Q. In the Engineering Department?
A. Yes.
Q. In what particular branch of engineering?
A. Civil engineering.
Q. Who are you employed by now?
A. By the Wisconsin Railroad Commission.
Q. How long have you been employed by them?
A. Since my graduation in 1923, besides that I was employed by them before for two summers.
Q. And what is the nature of your work with the Commission?
A. Hydraulic work largely, some valuation work. A large percentage of the work is of a hydraulic nature.
Q. The Railroad Commission supervises the granting of permits for dams &c.?
A. Yes sir.
Q. And what is the nature of your work in connection with that duty of the Railroad Commission?
[fol. 510] A. In that connection I do quite a bit of work. On the stream flow, determining flows, determining drainage areas, checking plans and making estimates of the value of water power sites.
Q. And has that been the nature of the work both prior to graduation and since graduation?
A. Yes.
Q. Did you make a check on the drainage area of the Montreal and the West Branch of the Montreal River?
A. Yes.
Q. And did you make that check from what maps?
A. I made a check from the maps submitted in this case by the Michigan engineers.
And corrected that map by means of original survey and made a check on the basis of the corrected map as we felt it should be corrected.
Q. And have you prepared a corrected blue print map showing the changes that you have made in view of the checks that you have made?
A. Yes sir.

Q. Showing you now Exhibit "350," I will ask you what that is?

A. Exhibit 350 was originally a copy of the map of the drainage areas of the main Montreal and the West Branch of the Montreal as submitted by the Michigan Engineers. The outline of the Drainage area, as submitted by the Michigan Engineers is shown in small [fol. 511] dots and this is also given in the key in the upper right hand corner of the map. Then following the original survey maps of the Wisconsin side, certain streams were added, and other corrections made, and the outline of the drainage area corrected as shown in the heavy dotted lines and the corrections are also shaded in red.

Q. The red markings or red areas between the slightly dotted line and the large dotted lines represent the difference between the drainage area as you determined it and the drainage area as determined by the engineers of the state of Michigan?

A. Yes.

Q. Now, where did you obtain the information for the corrections that you made?

A. On the Wisconsin side of the main Montreal, the corrections were made on the basis of the original survey notes which are in this building in the Capitol. On the Michigan side the corrections were made from photostatic copies of the original survey maps of Michigan.

Q. Now you stated, Mr. Witness, that you got the information from survey notes. Did you mean survey notes or survey plats?

A. Survey plats, township plat

Q. The same plats that are [illegible] vidence as exhibits in this case?

A. Yes.

[fol. 512] Q. Now there appear to be heavy irregular or jagged lines entered at various places in the map. What do they represent?

A. Those heavy lines represent streams which are shown on the original township survey maps, but are not shown on the maps submitted by the Michigan engineers.

Q. And the areas of the smaller irregular lines between brackets, which you have shown at various places on the maps, what do they show?

A. They show streams which were shown on the original maps submitted by Michigan, but were not shown on the original survey maps in Wisconsin and Michigan.

Q. Did you also determine the actual drainage area?

A. Yes I did.

Q. What are they?

A The drainage area of the main Montreal River above its confluence with the West Branch is 114 square miles. The drainage area of the West Branch above the bend where it joined the main Montreal is 87 square miles.

Mr. Rieser: We offer in evidence Exhibit 350.

Mr. Sawyer: Objected to on the ground that it is not based on any accurate survey, or that it is a location on the map admitted to have

been based on an accurate survey, and that the corrections are not claimed to have been based on any accurate survey.

[fol. 513] Cross-examination by Mr. Sawyer:

Q. I understand you to testify that the drainage area was corrected not by reference to the Government plats?

A. Oh yes it was corrected by reference to the Government Plats. May I explain that?

Q. Yes.

A. When I found on the original survey maps that there was a stream crossing the outline of the drainage area as outlined by the Michigan Engineers, it was evident that there was no divide in the drainage area. On such basis, the divide must have been between the streams as actually shown on the original survey.

Q. You are correcting this by plats from which the maps were made?

A. I was correcting it from the original survey maps.

Q. From which the Michigan engineers made this map?

A. Yes.

Q. Those maps, as I understand it, were small township and section line surveys, were they not?

A. Each map is a complete township, but they join.

Q. Now get my point. Those maps don't purport to show anything accurately excepting the town lines and the section lines and the points where the streams cross the town lines and the section lines?

A. Yes, and the quarter lines.

Q. And the quarter lines of sections?

A. Yes.

[fol. 514] Q. Are you sure that those plats are down to subdivisions of sections?

A. That was what I was told by one of the Chiefs of the Land Office.

Q. So that at best, the correcting you did was from the Government plats that were made by the engineers that made this map?

A. Yes.

Q. And those maps don't purport to show anything in connection with the country accurately, excepting Government lines and section lines and quarter lines?

A. That is not entirely true. There are some meandered lakes that are supposed to be shown accurately and the larger streams are supposed to be shown accurately.

Q. Were you told at the time that you corrected this, that the Michigan engineers had added to the township survey, the meander of Island Lake in the vicinity, which they themselves made?

A. No, I was not.

Q. Now, Mr. Steinmetz, the survey from which this map was taken, does not give any levels?

A. No.

Q. It would be impossible from that survey to determine where a

divide was, other than you check up from the minutes where a town line or quarter line crossed a stream?

A. Not entirely. The topographers, when they outline these maps, have outlined swamp areas, as you can see, and it is well recog-[fol. 515] nized that a divide will not be in a swamp when there is a high land near it.

Q. Does it not appear from the map that there are three divides in the swamp of which you have made corrections?

A. Yes, I have made corrections.

Q. The major corrections are made in swamp areas made on the map, where both streams do flow into the drainage area?

A. Well, you take the correction in Rage 44, North, Town 1 East—there is a swamp area there, but the correction was based largely on the fact that there were two important streams omitted from the Michigan map. A large amount of the correction is due to the streams being omitted. You take the correction in Range 43, Town one east,—you will notice that in Section 2, the stream was shown on the Michigan map does not show on the original survey. That is taken out; and you will see in Section 11, that I placed a stream in there which was not shown on the Michigan map.

Q. That is the basis of the major part of the correction. After you make that correction, then through section one, range 43 north, town one east, you have high land and it is evident that the divide will follow the high land?

A. Yes.

[fol. 516] Q. Before you go any further, speaking in relation to that stream which you have placed, it was not formerly—I don't know the section number—in range one east. Isn't this incorrect you have town 2 east and range 44 north. It should be town 44 north and Range one east?

A. Yes.

Q. The stream which you placed on shows that disputed lake, thrown into the drainage area of Island Lake, does it not?

A. Did you refer to the lake in section 15?

Q. No, I am referring to this here—(indicating on map)—that stream throws this lake into that drainage basin?

A. Yes.

Q. Doesn't this lake drain down into that lake?

A. Not as shown on the original survey.

Q. I notice you take out that line there?

A. There is a stream connection in section 31.

Q. There is also a stream connection back to this other lake in the red shaded area there?

A. No, there is no connection there.

Q. It so appears on this map?

A. No it does not.

Q. It runs into a swamp surrounding the lake?

A. That swamp has nothing to do with that lake.

Q. In making your corrections on this map, did you have any

line correcting, where there was an error to show more drainage area also?

[fol. 517] A. Yes, this correction we were just speaking about increases the drainage area.

Q. I notice one or two other places where the increase was very small in all cases, was it not?

A. Yes, I think the increase was small.

Q. Now coming over into Township 43 North, Range 3 east, the red shaded area, which is long and narrow there, going north, on what do you base your shifting of the divide in that instance?

A. You will notice that the divide as placed by the Michigan engineers, through sections 6, 8 and 17, goes through the edge of the swamp. You will notice that the divide as placed by the heavy dotted line follows land which is shown as high land and not swampy, especially through section 5 and the north half of section 8, and then the heavy dotted line takes the short distance across the swamp.

Q. Isn't it a fact that that swamp that you are crossing there is according to the map drained by both the Montreal and the river drainage to the south?

A. Yes.

Q. And it would be impossible to tell what portion of the swamp drained one way and what portion drained the other?

A. It is impossible to determine it accurately. It is usually the case in a swamp. The greatest part is where the divide is. It is usually the fact that the divide will not follow along into the [fol. 518] swamp more than is absolutely necessary. There is a point of divide in a swamp of course.

Q. You have never seen any of this country?

A. I am familiar with that general locality. I have never seen that particular place.

Q. You have never made any effort to examine the country with a view to establish these divides?

A. I had first hand information from a man who did examine that divide.

Q. And did you use that information in connection with compiling this map.

A. I did.

Redirect examination by Mr. Rieser:

Q. Did you use that information to check back on the information you got from the Government survey in determining your drainage area?

A. No I did not.

Q. How did you use it?

A. The only place that I used any information that was given me by this man was approximately in the locality of section 16, township 43 north, range 3 east, and that general locality. This man found that there was a stream flowing north—that was all that I used. That checks the original survey.

[fol. 519] By Mr. Sawyer:

Q. Isn't it very common to find that streams delineated on the original surveys are not accurately delineated and that swamps are not accurately delineated and that streams on that plat might be found later to be flowing into another river?

A. I think the maps we now have are the most accurate original survey maps, but I don't doubt but what if they were resurveyed, there would be some changes.

Q. Then the difference between your maps and the Michigan survey, is merely your guess as to the difference between what they compiled and the Michigan engineers?

A. No, the difference between this map and the map submitted by the Michigan engineers is largely a question of taking the data off accurately.

Q. You have just stated that you added to this map something you were told by some man that was up there?

A. I said this man checked the extension of the stream which was shown on the original survey plats.

Q. Will you point out to me that stream?

A. Yes, it is that stream there. (Indicating on map.)

Mr. Rieser: In what town and range?

A. It is a stream in sections 16 and 17, township 43 north, Range 3 east.

Mr. Sawyer: And that was not shown on the Michigan engineers' map?

[fol. 520] A. No, it was not shown accurately.

Q. And from the information this man gave you, you changed the line from where they had it?

A. No.

Q. Didn't you cut off the section of the river they had and add the section you found?

A. Yes I did that on the information I gained from the original survey plat.

Q. You did not attempt to change the divide between the two branches to any other great extent?

A. It is changed slightly.

Q. Then so far as this change, would it make any difference in the ratio of the watershed area?

A. Yes it would make a difference.

Q. You corrected it both ways?

A. Yes I corrected it both ways.

Q. Do you remember which way the difference was?

A. No, I don't remember. It looks, to be about the same.

Q. Are you familiar with the character of the country so you would know, referring now particularly to the section 31, township 45 north of range 3 East, the first correction change I find on the divide line between the two branches, where the Michigan engineers threw the divide line over close to the swamp?

A. I don't find any correction there on section 31, township 45 north.

[fol. 521] Q. It is 46 north, section 31.

A. What was your question?

Q. Do you know the character of the country there so that you know the engineers were not right in placing the divide line along the edge of that swamp?

A. No, I placed my line on the original survey map entirely.

Q. As a matter of fact you crowded your divide line over to the immediate headwaters of the creek draining into the west branch instead of somewhat splitting the areas as the Michigan engineers did?

A. No, you will observe that there is a portion of the stream bracketed there which is shown on the Michigan map, which is not shown on the original survey map; that is just to the west of the heavy dotted line.

You will also notice in section 31 and section 6, immediately south, there is a swamp area,—my judgment was that the divide was midway between the swamp areas and the headwaters of the stream.

Q. It might just as well be between the swamp and the East Branch and that swamp might as well drain into that creek as into the East Branch of the Montreal, isn't that true? From anything that was shown on that government survey?

A. I don't think so. That would throw your divide too close to a large stream.

Q. The creek is closer to the swamp than the stream is, isn't it?

[fol. 522] A. No, it is further from the swamp as the stream is located.

Q. But that's partly a guess on your part as to where that divide is?

A. No, I wouldn't say that was a guess, I would say that was a matter of judgment.

Q. The Government plat does not pretend to show where the divide is, does it?

A. No.

Q. And you have to place that divide from your own ability to read that map?

A. Yes.

Q. And the Michigan engineers recognizing that it could not be guessed at, averaged the country?

A. No, I don't think they did.

Q. I mean they averaged the country from the creek draining into the West Branch and the East Branch of the river?

A. No, in my judgment, when the Michigan engineers placed their divide there, they did it largely on the basis of that stream which they had drawn in there, which was misplaced. That, in my opinion, is the reason they made that extra loop out to the east there. Now, since that stream isn't there, naturally the divide will come over closer to where the stream is.

Q. Do you know the stream is not there?

A. It is not there as shown on the original survey.

[fol. 523] Q. Then all these changes you have made in regard to

streams, are where you have found them on the original plat, and you have no knowledge as to whether they are actually there?

A. This map is based entirely on the original survey.

Q. What method did you use Mr. Steinmetz, in computing your area?

A. The area was computed by means of a planimeter.

Q. And based entirely on the original government survey?

A. No.

Q. Did you consider a full government description as forty acres, or how did you consider it?

A. It was based on this map here. On the map here as shown or used to determine the constant for the planimeter, and then this map was used to measure the area.

Q. What do you mean when you say determine the contstant for the planimeter?

A. The necessary single instrument to read square miles, to reduce a figure which must be multiplied by some constant in order to get square miles.

Q. From what dimension do you compute the square miles?

A. From the dimensions of these townships as shown on these maps.

Q. To get at my meaning more definitely, where you see a section, what area do you take for that section?

A. You mean any section?

Q. Are they all the same?

A. No, they aren't all the same.

[fol. 524] Q. Well, where a full section falls within the drainage area, what did you give that,—did you call that a square mile?

A. Yes, in all cases except sections which are corrected, because they are not full sections. Now that correction is taken up on this map.

Q. In going over this did you note that the course of the East Branch and the West Branch of the Montreal River had been tied into the government surveys to every section corner and its course corrected on the map by the government engineers and the drainage divide placed in view of their reconnoisance of the whole country?

Mr. Rieser: Objected to as assuming something not in the record in this case.

A. I did not understand it was used on this map.

Q. You did not understand anything was used in compiling the maps except the government plats, is that true?

A. Yes.

Q. And you would not claim to be able to correct a map if it was made from the actual viewing of the country?

A. I did not attempt to make any corrections except on the basis of the original survey plats.

Mr. Sawyer: We object to the admission of this exhibit and ask to have it excluded on the ground it is an attempt to correct the Plaintiff's Exhibit, which was not compiled from the Government

plats used in attempting to correct it, and also from the information [fol. 525] and knowledged gained by the Michigan Engineer's in some six weeks investigation in this territory, and that the correction is based upon hearsay.

Mr. Rieser: Now Mr. Steinmetz, when you testified and referred to the Michigan exhibit showing the drainage area, what exhibit did you refer to?

A. Plaintiff's Exhibit "173."

Q. Referring also to Defendant's Exhibit 350, I call your attention to a dotted line running from Long Lake in a general Northwesterly direction to the mouth of the Montreal River—do you find it?

A. It is near the mouth.

Q. What does that dotted line represent?

A. That represents a trail as shown on the original survey map.

Q. Which you copied in from the plats?

A. Yes.

Mr. Sawyer: From the point where that trail strikes the Montreal River, there is also a dotted line continuing to the south of the Montreal River. Is that also on the original Government plat?

A. Yes.

Witness excused.

An adjournment was here taken to March 11th, 1925, at 10 o'clock A. M. at the same place.

[fol. 526] March 11th, 1925, at 10 o'clock A. M. Hearings were resumed at Madison, Wisconsin, at the Capitol, parties present as before.

The defendant, to sustain the issues upon its part, offered the following evidence, to-wit:

H. R. Aldrich, being duly sworn, on his oath testified on behalf of defendant, as follows:

Direct examination by Mr. Rieser:

Q. Mr. Aldrich, where do you live?

A. Madison, Wisconsin.

Q. And what is your profession?

A. Geologist.

Q. Who are you employed by?

A. The Wisconsin Geological Survey.

Q. In what capacity?

A. As Geologist and Chief of Field Apparatus.

Q. Are you a graduate of an engineering school?

A. I am.

Q. What Institute?

A. Massachusetts Institute of Tech.

A. What department?

A. Mining Engineering.

Q. And how long have you been with the State Geological Department?

A. Permanently since January, 1921, during the field seasons of 1917 and 1919 and prior to that.

Q. And what has been your experience in the Geological line and Mining Engineering line prior to your graduation and since your graduation?

[fol. 527] A. Prior to graduation, my mining experience consisted of a period spent in Butte, Montana, in the ordinary capacity of miner and mucker and roustabout, &c., for the Anaconda Copper Company, Butte, Montana. Since that time my experience has been to mining, with the Geological Survey here, inspecting the mines on the Gogebic, mines in the vicinity of Hurley for the purpose of assessment for the Tax Commission. My geological experience going beyond that has consisted of the supervision of field work by parties in the Northern part of the state.

Q. In what particular part of Wisconsin, did you carry on most of your work?

A. In the so-called northern part of the state, Iron, Bayfield, Ashland and Douglas Counties.

Q. During the past year have you conducted parties in Iron County?

A. Yes.

Q. When did you graduate?

A. 1914.

Q. What were you doing during the period of 1917 and 1919?

A. During the academic year 1917, I was a graduate student at Minnesota, taking an advanced degree. In the period from December, 1917, until about March, 1919, I was engaged in War Work in Washington, with the War Industries Board and with the General Staff in charge of non-ferrous metal stastistics.

[fol. 528] Q. Mr. Aldrich, in connection with your work in Iron County this last summer, have you made various investigations and observations in the vicinity of the West Branch of the Montreal River and the Montreal River in the summer of 1924?

A. I have.

Q. Have you done that at the request of the Attorney General's Department of Wisconsin, at the request of Mr. Hotchkiss?

A. At the request of Mr. Hotchkiss.

Q. Mr. Hotchkiss is your immediate Superior?

A. He is.

Q. He is the State Geologist for the State of Wisconsin?

A. He is.

Q. Did you make any investigations in the vicinity of the confluence of the West Branch of the Montreal River and the Montreal River in the summer of 1924?

A. I did.

Q. And you did that for the purpose of preparing certain maps showing the junction and conditions at the junction?

A. Yes.

Q. And as the result of information obtained, did you prepare such maps?

A. Such maps were made under my direction, yes.

Q. You furnished the information and the maps were made under your direction, is that right?

A. Yes.

[fol. 529] Q. Showing you now Defendant's Exhibit 120, I will ask you whether or not that was the map that you state was prepared under your direction?

A. That is the map.

Q. And does that show the conditions in the vicinity of the confluence of the two rivers at the time you made your investigation?

A. That does.

Q. I call your attention to the legend on that map and a revision that was made. Just in what way is that revision indicated on the Exhibit?

A. As indicated in the last line of the legend, the dotted line shows the water's edge at flood stage; the heavy line represents the water's edge at the lower stage on September 16th.

Q. When was the first investigation made?

A. August 4, 1924.

Q. And was that the flood stage?

A. That was decidedly a flood stage.

Q. And on September 16th?

A. The water was considerably lower.

Q. And the area between the heavy line and the dotted line then represents the difference of the limits of the water on the two stages, is that right?

A. Yes.

Q. Calling your attention to the figures in the channels of the two rivers, what do they represent?

A. They represent two things. Figures within circles indicate [fol. 530] widths of the stream; figures without circles indicate depth soundings.

Q. Now you have a figure there 10 with two dots in front of it, what does that indicate?

A. Two dots to the upper right are the conventional symbol for inches.

Q. And the one dot?

A. Feet—same convention.

Q. That's the usual way you have of indicating inches and feet on maps?

A. Yes.

Q. There is a X in the immediate neighborhood of those figures, what does that indicate?

A Location of the measurement of the sounding at the bottom of the pole by which the sounding was made.

Q. The shaded portion of the map marked "bare gravel," what does that indicate?

A. That indicates bare gravel.

Q. And indicates bare gravel at what time?

A. At the lower stage of the flood.

Q. Now the most westerly stream crossed, showing the marking of "bare gravel," was that overflowed with water the first time you went there in August 1924?

A. That was overflowed at that time.

Q. And what can you say as to whether there was bare gravel there on September 16th?

A. There was bare gravel.

Q. Was there any water flowing through the channel at that time?

[fol. 531] A. There was no water flowing through the channel at that time.

Q. Now in coming up the Montreal River from Lake Superior, would that be the first water you would meet coming in from the West Branch when water was running through there?

A. It would be.

Q. To the right of the exhibit and across the large Island where there are apparently some islands—were those islands when the water was at high water mark on August 4th?

A. Those were islands at the high water stage August 4th.

Q. Was there any water running at the lower water stage between those islands and the main land?

A. There was not.

Q. The limits of the dotted line?

A. No.

Q. Now you have also a shaded portion marked in the Montreal River immediately above the junction of the West Branch with the Montreal River, what does that refer to?

A. That was properly labeled "Log Jamb."

Q. And the measurements there, what do they indicate?

A. The depth of water taken through the jamb.

Q. Did you examine that jamb?

A. I did.

Q. What is the makeup of that jamb?

A. Chiefly large logs—large logs, chiefly saw logs. Some old trees, drift wood, brush, chips and the like.

[fol. 532] Q. Where are those saw logs located? Are they all on top or where are they?

A. I would say they are all through.

Q. All through the jamb?

A. Yes.

Q. Did you examine that jamb with the idea of determining about the length of time that jamb had been there?

A. Yes.

Q. What is your best judgment as to that?

A. Certainly since the logging operations, on account of the fact that there are saw logs there; perhaps in years ten to twenty, but that's a matter I couldn't decide.

Q. Did you also go up the West Branch of the Montreal River to determine whether there were any log jambs in that river?

A. I did.

Q. And did you find any there?

A. Beyond the confines of this map Exhibit 120, a distance I wouldn't want to state definitely, but certainly within a quarter of a mile, I found a log jamb.

Q. And where with reference to the railroad crossing of the river by the Duluth South Shore & Atlantic Ry?

A. Between that bridge and the confluence.

Q. And what was the size of that log jamb?

A. That log jamb in which was from bank to bank and in length 196 paces, paced on the jamb itself.

[fol. 533] Q. And did you examine that to see what kind of logs it was made of?

A. I did.

Q. And what was it?

A. Principally saw logs, some trees and brush and general rubbish coming down stream.

Q. And how did that compare in age, would you say with the jamb that you found in the main Montreal?

A. My impression is that it was of much greater age.

Q. And by what was that evidence?

A. The growth of saplings and grass and the like upon it. The condition of the logs; they seemed to be much more decayed through contact with air and water.

Q. And about how long were your paces that you took there?

A. Between two and two and a half feet.

Mr. Sawyer: Why not say 500 paces to a quarter of a mile?

A. Those are standard paces.

Mr. Sawyer: Let it appear in the record that the standard 500 paces is a quarter of a mile.

Mr. Rieser: At the bend of the Montreal River above the log jamb, there is a notation "Stream Gauge," what does that refer to Mr. Aldrich?

A. The two words "Stream gauge" are attached by means of an arrow pointing to a cross, which cross is the location of the stream gauge device established by the engineering division of the Railroad Commission presumably.

[fol. 534] Q. Did you also go up to Montreal River above the stream gauge?

A. Yes.

Q. About how far?

A. Approximately two miles.

Q. And what was the condition of the Montreal River above there as to the banks and as to the nature of the water, etc?

A. The banks vary, naturally, high and low; the width of the stream is about uniform around fifty to one hundred feet wide. About fifty feet wide. The depth is knee high on me in most places—two feet.

Mr. Sawyer: I object to this and ask to have it stricken out unless he fixes the date.

Mr. Rieser: When was this examination made?

A. September 16, 1924.

Q. And what was the character of the water; were there any rapids in that region?

A. No real rapids.

Q. Were there any obstructions in the river?

A. There was but one tree recently dropped across. No other obstacles.

Q. Showing you now Exhibit 120-a and ask you whether or not that is a duplicate of Exhibit 120, with some additions added to it?

A. That's a duplicate.

Q. What do the black lines in there indicate?

[fol. 535] A. The black lines indicate line of view of certain photographs taken as indicated.

Q. Showing you Defendant's Exhibit 122, I will ask you whether that is one of the panoramas referred to on Exhibit 120-A?

A. It is.

Q. And is Panorama No. 1 is that right?

A. Yes, Panorama No. 1 is right.

Q. Now the letters that appear beside the black lines, beginning with "A" and ending with "G" what do they refer to?

A. They refer to the individual photographs of the panorama which have the corresponding letters.

Q. Do they correctly show the photographs of the condition in that vicinity of the confluence of the river which they purport to cover at the time the pictures were taken?

A. Yes.

Q. Were you personally present at the time the pictures were taken?

A. Yes.

Q. And I guess you appear in several of the pictures?

A. I appear in several of the pictures.

Q. When were those pictures taken, if you recall?

A. I do not recall the exact date.

Q. Do you recall whether it was on either one of the visits which you made at which the information for Exhibits 120 and 120-a was secured?

A. I do recall that they were not taken on either one of those days.

[fol. 536] Mr. Sawyer: You said those pictures were not taken on either of the days of what?

A. Of the legend here.

Mr. Rieser: Those pictures, Mr. Aldrich, were taken by whom?

A. Dr. Diemer, University of Wisconsin Photographer.

Q. And were taken while you were there?

A. Yes.

Q. And do they correctly show the situation that they purport to show in the vicinity of the Montreal River?

Mr. Sawyer: Objected to, witness not competent to answer.

A. They do.

Mr. Rieser: Show you now Defendant's Exhibit 122a and I will ask you what that is?

A. That's a Panorama, indicated on the map as Panorama No. 2.

Q. And where is that taken with reference to the confluence of the river?

A. Down stream from the confluence.

Q. And looking upstream, is that right?

A. Looking up stream.

Q. And the black marks indicated on your map Panorama No. 2 indicate the direction from which the picture was taken?

A. Yes.

Q. And the numbers next to the letters refer to what?

A. The individual views in the Panorama, the corresponding letters on the Panorama.

[fol. 537] Q. And was that picture taken on the same date that Panorama No. 1 was taken?

A. On the same date.

Q. By the same photographer?

A. Yes.

Q. While you were present again?

A. Yes.

Q. And does it correctly show the situation covered by that picture at the confluence?

Mr. Sawyer: Object to that, the witness has not qualified himself to testify to that.

A. Yes.

Mr. Rieser: You were again present at that time, were you?

A. Yes.

Q. Showing you now Defendant's Exhibit 123, I will ask you whether that was another picture taken at the same time the panorama pictures were taken?

A. Yes.

Q. And was the point from which that picture was also taken indicated on Exhibit 120a?

A. Yes.

[fol. 538] Q. And where and how is it indicated on that Exhibit?

A. At the end of the arrow bearing No. 123.

Q. And was taken looking in which direction?

A. Looking generally southwest up stream toward the point of the large Island.

Q. And does that correctly show the situation at that point on the date that that picture was taken?

A. Yes.

Q. And was that picture taken by Mr. Diemer, was it?

A. Yes sir.

Q. And the same parties were present as at the taking of the other pictures, is that right?

A. Yes sir.

Q. Showing you now Defendant's Exhibit 123a, I will ask you

whether the point from which that was taken is also indicated on Exhibit 120a?

A. It is not. The line of view is indicated by the arrow bearing the inscription "Exhibit 123-a."

Q. And the general direction of that is what?

A. To the south and west, looking up stream.

Q. At the point again on the same large island?

A. Yes.

Q. And does that correctly show the situation in that vicinity at the time that picture was taken?

A. Yes.

Q. Showing you now Defendant's Exhibit 124, I will ask you whether or not the point from which that picture was taken is in-[fol. 539] dicated on Exhibit 120-a?

A. The end of the arrow bearing the inscription 124.

Mr. Sawyer: Is it taken in the direction in which the arrow points?

A. Yes.

Mr. Rieser: What is the direction of that?

A. Looking down stream in a general northwesterly direction.

Q. And does that correctly show the situation at the time that picture was taken at that point?

A. Yes.

Q. Showing you now Defendant's Exhibit 124-A, I will ask you whether or not the point from which that is taken is indicated on Exhibit 120-a?

A. It is.

Q. And is it indicated by the figures 124-a?

A. It is.

Q. And what direction was that taken in?

A. Looking up stream in a general southeasterly direction.

Q. Was that taken below,—down stream from the gravel deposit bar that is shown on Exhibit 124?

A. Yes.

Q. Looking up stream from below that point, is that right?

A. Yes.

Q. At this point there seem to be some shaded portions between the small island and the large island in the vicinity of the figures 124 and 124-a on Exhibit 120-a, what do they indicate?

A. They indicate a gravel bar and the gravel bar is so labeled [fol. 540] on the large island with the arrow pointing to it.

Q. And the bar that is shown on Exhibits 124 and 124-a what is the fact as to whether that is the same bar indicated on Exhibit 120-a?

A. That's the same bar.

Q. And does that again correctly show the situation at the point where this picture was taken?

A. Yes.

Q. You seem also to have some shaded portions up stream from the point where the last two pictures were taken between the small island and the large island, what do they indicate?

A. Jambing, log jambing, the same pattern as indicated previously.

Q. And the shaded portion also running from the south side of the small island about opposite the point identified on Exhibit 120-a as Panorama No. 1 and extending over to the mainland near the end of the arrow marked "D," part of Panorama No. 1, what is that?

A. That's a gravel bar.

Q. And what can you say as to how that compared with the gravel bar as shown by the pictures 124 and 124-a?

A. This is not the same bar, but is of the same general nature.

Q. It is of the same general make-up, is that right?

A. Yes.

Q. Show you now Defendant's Exhibit 128. I will ask you where [fol. 541] that picture was taken, if you know?

A. That picture was taken from the point on Exhibit 120a at the end of the arrow bearing the inscription "128" looking toward a cross marked "Stump."

Q. And the X marked "stump" refers to the stump on Exhibit 128, does it?

A. Yes.

Q. And does it show the condition of that stump and size of it at the time the picture was taken?

A. Yes.

Q. What kind of a tree was that, do you know?

A. No I don't.

Q. Did you count the rings in that tree?

A. I was present when the rings were counted.

Q. Mr. Aldrich, who was in the party at the time the pictures were taken?

A. This complete suite of photographs?

Q. Yes?

A. Dr. Diemer and Dr. Diemer's son and Mr. Hotchkiss and myself, Mr. Halbert and Mr. Wingert.

Q. And did Dr. Diemer take all of the photographs that you have produced now?

A. Yes sir.

Q. And they were all taken on the same date, I understand?

A. Yes.

Mr. Rieser: I now offer in evidence Defendant's Exhibits 120, 120a, 122, 122-a, 123-123a, 124-124a, and 128.

[fol. 542] Q. Mr. Aldrich, how was the information obtained from which this map was made?

A. Do you want a long story about it? It was made by the pacing compass traverse method.

Q. And was the work done by you under your direction?

A. Yes.

Q. While you were present personally?

A. Yes.

Q. And a preliminary sketch made?

A. Yes.

Q. And subsequent to that time a map was drawn, was it, between August 4th and August 16th?

A. Yes sir.

Q. And was that map checked back again on September 15, 1924?

A. Yes.

Q. And then a new map was made with additional information, is that right?

A. Yes.

Q. And does that correctly show the situation at the confluence of those two rivers as you found it in 1924?

A. Yes sir.

Q. And do the measurements of the width of the streams, do they represent actual measurements taken?

A. Yes.

Q. And the measurements of width of the streams, do they represent actual measurements taken?

A. Yes.

Q. And the measurements of depths where they are indicated, do they show actual measurements?

A. Yes.

[fol. 543] Q. And is the method you used in making those maps, a common method used in making maps of that kind?

A. Yes.

Q. And approved and commonly used by engineers, genetally?

A. Yes.

Mr. Rieser: I now renew the offer of all the exhibits.

Mr. Sawyer: Objected to for the reason it is too remote from the time and the conditions existing when the grant to the state of Michigan became effective, that it is self-serving testimony, originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial.

As to the photographs, I desire to make the separate objection that the witness has not qualified himself to show the accuracy of the photographs and there is no proof that these are copies of the original negative.

Mr. Rieser: Mr. Aldrich, did you also make a trip to the confluence of the Lehman's Creek or Spruce River and the Pine River in the summer of 1924?

A. Yes.

Q. With the same party that was with you at the confluence of the West Branch of the Montreal River when the pictures were taken?

A. With the exception that the son of Dr. Diemer did not go, it was the same party.

[fol. 544] Q. Were you also there in the vicinity of that confluence at the time the trail was traced by the Indians that testified here yesterday?

A. I was with that party.

Q. And did you follow over the points where this trail was pointed out to you by these Indians?

A. Yes sir.

Q. And were there evidences there of the trail in different places as you went along?

A. Yes.

Q. And by what was that trail evidenced?

A. The trail was evidenced by the wearing down, the hardness of the path, some slight depression from the banks of the path or trail, and by blazing.

Q. And was that at more than one point?

A. Yes.

Q. Now then, with that information, did you also check over the maps, certain maps and exhibits which have been offered here showing the course of the trail running from the mouth of the Montreal River toward Portage Lake and in that general direction?

A. Yes.

Q. Or sometimes known also as Long Lake?

A. Yes.

Q. You started out on that particular trip from Long Lake, did you not, with the Indians?

A. Yes.

[fol. 545] Q. And what can you say as to whether or not the trail that was pointed out to you by these Indians followed substantially the trail as shown upon the various maps that you have referred to?

A. I believe that it did.

Q. And what can you say particularly with reference to the government charts showing the course of that trail?

A. Substantially the same.

Q. I show you now Defendant's Exhibit 355, Mr. Aldrich, and ask you what that map was taken from?

A. The land, lines, streams, lakes, railroads, cities in the above exhibit, are traced from the blue print received from the state of Michigan in relation to the Interstate Boundary question.

Q. At the time of the hearing last fall?

A. I can't say that.

Mr. Mr. Sawyer: We will admit it.

Mr. Rieser: And I will call your attention to the dotted line running from the lake known as Long Lake in a generally northwesterly direction to the Montreal River. What does that refer to?

A. That marks the course of the old Indian Trail of which we have been speaking.

Q. That information was added to the map furnished as the Michigan Exhibit, is that right?

A. Yes.

Q. And the information was taken from the early Government surveys, showing the course of that trail, is that right?

[fol. 546] A. Yes.

Q. And does it show the course of the trail as you found it when you went across that trail with the Indians who testified here?

A. Yes sir.

Q. Now there is a shaded portion also in the vicinity of Hurley

and from there on westerly, that is also in addition to the Michigan map?

A. Yes, that represents the geology of the region.

Q. And the reddish line indicates what?

A. That indicates the so-called iron formation of the Gogebic Iron Range.

Mr. Sawyer: Do I understand this was a tracing made from the Michigan maps?

A. This is a print from a tracing made from the original map submitted by the plaintiff.

Mr. Rieser: Now the yellow shading, what does that refer to?

A. The yellow shading indicates slate formation.

Q. Then there are some white shadings on both sides of the colored strips, what do they refer to?

A. Actual exposures or outcrops of rock.

Q. Were those additions to the map made from actual observation and information in possession of the geological department?

A. Yes sir.

Q. And correctly show the situation with reference to the outcrops and the course of the ore bodies in that vicinity?

[fol. 547] A. Yes.

Q. And those were surveys made under your charge, were they not?

A. In certain areas, yes; in certain areas, no.

Q. Are you familiar, for instance with the ore body running through there?

A. Yes.

Q. And the colored area in the upper left hand corner, to what does that refer?

A. That refers to the so-called Keweenawan Conglomerate.

Q. And the dotted line around the station marked "Gile" up to that, within which are marked Montreal Mining Company, what does that indicate?

A. That area bounded indicates the property of the Montreal Mining Company.

Q. Extending on both sides of the west branch of the Montreal River, is that right?

A. Yes.

Q. With that information Mr. Aldrich, did you also check over Wisconsin Exhibit #7 and the maps found in that?

A. Yes sir.

Q. Calling your attention particularly to the map included in the 1840 report and following the rivers with reference to August 17, 1840, I will ask you whether or not you can locate the location of the shaded portion of that map with reference to the conditions as you found them and know them in the vicinity of Hurley?

A. There are two portions here shaded, one lighter and one darker. [fol. 548] The darker indicates the conglomerate shown on Exhibit 355; the lighter showing indicate traps, also shown on Exhibit 355.

Q. Is it traps or trap rock?

A. Trap rock.

Q. And is in the vicinity of the mouth of the Montreal river, is that right?

A. Yes.

Q. Where it leads into Lake Superior?

A. Yes sir.

Q. Now referring to the same exhibit and covering August 17th or following entries with reference to events,—on August 17, 1840, can you locate the various points on that map with reference to the map that you have produced here, Exhibit 355?

A. This sketched map is in part duplicate of that last referred to.

Q. That is last referred to in your testimony?

A. Last referred to in my testimony. Indicates the same conglomerate, the same trap rocks and further up stream a second range of trap rock.

Q. Now from the course of the stream and the location of various marks there, what can you say as to where the second trap rock is located, in view of the information you have as to the conditions of the country?

A. The second trap rock is in the vicinity indicated here.

Q. Just immediately northwestly from the shaded yellowish part of the Exhibit 355?

[fol. 549] Yes, and labeled on this map "355" "Traps and Gabbros."

Q. Now referring to the sketch again following entry of currents, under date of July 27, 1841, in the same exhibit, can you locate the trap formations as located on the Houghton sketch on your Exhibit 355?

A. Yes sir.

Q. And where are those traps?

A. With reference to the last reference going up stream from Lake Superior, we encounter the first conglomerate as indicated on 355 and before referred to, immediately up stream from this, the traps, trap rocks also previously referred to; thence up stream a second range indicated by dots and bearing the inscription "Trap." This is the second trap range lying immediately northwest of the yellowish tinted area on "355."

Q. The last trap that you referred to are located where on the Houghton map?

A. They are located at the inscription "trap."

Q. And where with reference to the stream marked "Hemlock Creek"?

A. Paralleling the stream labeled "Hemlock Creek" and up stream with reference to the Montreal River.

Q. And directly opposite the point marked "Rapids" and "Portage" in the Montreal River?

A. Yes.

Q. And what can you say with reference to the location of those trap formations, as to whether or not the Houghton sketch locates [fol. 550] substantially the location of those formations?

A. I believe they do.

Q. And in view of that can you say what stream, by what name the stream indicated as "Hemlock Creek" on the Houghton sketch is now known?

A. The Hemlock Creek is now known as the West Branch of the Montreal or the Go go gasugun.

Q. Can you also locate Rock Creek on the tracing map or substantially the location of Rock Creek as shown on the Houghton Map?

A. This creek is that shown on Exhibit 355 as a stream in section 6, passing through numerous outcroppings of granite, Township 45 North of Range 3 East.

Q. And the falls, in the light of the conclusion as to the present name of Hemlock Creek, the location of the falls on the Houghton Map, what can you say as to whether or not they are correctly located with relation to the confluence—the falls near the trap easterly from Hemlock Creek.

A. Those are the falls indicated on Exhibit 355 by the inscription "Falls," 25 feet—30 feet immediately down stream from the yellow shaded area on the Montreal River.

Q. You stated a while ago that you were also with the party that took the pictures at the confluence of the West Branch, and also at the confluence of the Lehman or Spruce Creek, as it is sometimes called?

A. Yes.

[fol. 551] Q. Were there any pictures taken at that point?

A. Yes sir.

Q. Showing you now Defendant's Exhibit 125, I will ask you whether or not that picture was taken on the occasion referred to?

A. Yes.

Q. Showing you now Defendant's Exhibit- 126 and 127, and 127-a, and also calling your attention to Defendant's Exhibit 125, I will ask you whether or not all of those pictures were taken on the occasion that you have just referred to?

A. Yes.

Q. Now will you refer to the various pictures and identify them by number and locate the point where those pictures were taken?

A. Exhibit 125 is looking up stream on the Pine.

Q. Where with reference to the junction of the Pine and the Balsam?

A. Approximately at the junction. 127-a shows the junction of the two streams.

Q. Looking in what direction, Mr. Aldrich?

A. Looking down stream on the Pine and the Balsam and the main Montreal in the distance.

Q. Is the Balsam actually shown?

A. The Balsam is in the right middle foreground.

Mr. Sawyer:

Q. 127-a is looking down the Pine toward the junction from above?

[fol. 552] Mr. Rieser: Did you say this was the Pine or the Balsam, the one immediately in front there?

Mr. Rieser: If you don't remember Mr. Aldrich, we can probably have somebody else identify that.

A. I don't remember this picture clearly. Most of my time was spent walking around to be in the photographs when they were taken.

Mr. Rieser: These pictures were all taken on the same trip that you have referred to, when the pictures were taken at the confluence of the West Branch and the Montreal River?

A. On the same day.

Q. And by Mr. Diemer?

A. Yes.

Q. And at a point substantially in the vicinity of the Astronomical Station referred to as No. 2 in the various maps?

A. Yes.

Q. And located by a cross substantially on the Houghton map under date July 27, 1941?

A. Yes.

An adjournment was here taken until 2 o'clock in the afternoon, at the same place.

At 2 o'clock the further examination of Mr. Aldrich was continued.

Mr. Rieser: Mr. Aldrich, referring to the lake identified as Long Lake on Exhibit 355, was that the lake from which the Indians [fol. 553] started at the time the trail was shown to you?

A. Yes.

Q. I ask you with reference to Exhibits 146-147-148 Wisconsin Exhibits, I ask you whether or not you can identify that lake on those exhibits?

A. Yes.

Q. What lake does that show?

A. Portage Lake.

At this point Mr. Aldrich was withdrawn from the stand for the time being, and the defendant to further sustain the issues on its part produced as a witness Mr. M. E. Diemer, who, being first duly sworn, on oath testified as follows:

Direct examination by Mr. Rieser:

Q. What is your profession Mr. Diemer?

A. Director of the University Photographic Laboratory.

Q. And what has been your experience in Photography?

A. Since about 1905 and 1906, I have been engaged in the photographic work to some extent or other, and the last ten years have been devoted almost exclusively to that.

Q. And what has been the nature of your photographic work?

A. Principally that of a scientific nature.

Q. And what kind of work have you been doing along that line? [fol. 554] A. Such things as Photographic Micrography and the motion picture as applied to science and almost any branch of photography in its exact sense.

Q. And where has that work taken you?—around the country?

A. To several parts of the United States, several parts of Canada, Alaska and the Yukon.

Q. And have you been doing the special work along that line for the United States History Department?

A. I have.

Q. And did that include the taking of landscapes and photographs of that kind and nature?

A. It did.

Q. Photographs somewhat similar to photographs which have been identified here as Exhibits 122 and 122-a?

A. This constitutes Exhibit 122 and 122-a, yes.

Q. And have you had considerable amount of experience along that line?

A. Considerable.

Q. And did you take some pictures at the confluence of the West Branch of the Montreal River and the Montreal River for the state of Wisconsin in the summer of 1924?

A. It was in that locality, yes.

Q. And pictures Exhibit- 122, 122-a 124-124-a, 123-123-a, 128, 125, 126, 126-a, 127, 127-a, were they taken by you?

A. Those pictures were taken by me.

Q. And do they correctly represent the situation as shown by you at the place where they were taken?

[fol. 555] A. As near as is possible to be a reproduction by photography.

Q. And are you able by photography to produce correct representations?

A. Within the limits of a scientific instrument.

Cross-examination by Mr. Sawyer:

Q. Mr. Diemer, will you explain the meaning of the word perspective as used in photography?

A. As ordinarily understood the meaning of perspective in photography is really the absence of distortion due to ordinarily parallel lines appearing either convergent or divergent in a photograph.

Q. In the making of a photograph, to reproduce the landscape, the scientific operator lines up all points within vision upon one plane?

A. He does.

Q. And in so doing, there is a certain amount of distortion of distance?

A. Yes—the ordinary photograph sees as a one-eyed man does—it sees but two dimensions, while ordinarily the human eye comprehends three dimensions, length, breadth and depth.

Q. The result is that any photograph being read by a man not skilled in reading photographs, might result in his misreading breadth at a certain point because of that point being compared to a similar point at a closer range?

[fol. 556] A. Yes.

Q. In making these pictures was any special scientific treatment used to prevent that difficulty?

A. No special scientific treatment was used except that such distortions that usually occur are commonly found in wide angle lens. These are taken with as narrow a lens as is possible.

Q. Showing you Exhibit 120-a, I call your attention to the markings on there of the panorama station and the directions, and I ask you if at that time you took these pictures, you were accurate to the extent that you took any compass measurements as to the direction your camera was pointed?

A. No.

Q. These markings placed there were made by you?

A. No, mine was simply the photographic technique.

Q. Were any notes taken as to the distances while you were taking these?

A. To the extent, I cannot say. I know Professor Hotchkiss took notes all the time while we were making the photographs.

Q. Can you say it would be possible within the science of photography to so distort pictures such as these, as to make them represent an inaccurate situation?

A. I don't—especially under the circumstances these were taken.

Q. You say it would be impossible to do so?

A. I wouldn't say it would be impossible to do so. But I doubt [fol. 557] that they could be distorted to the extent that they would entirely misrepresent.

Q. The condition of the photographs as to distance and comparative distance might be controlled by the method of developing the film?

A. Not to any great extent. It would have to be controlled by subsequent work which would have to be put upon the negatives, and if there is any information—I have the negatives here.

Q. I am not insinuating that point. The photographs which we have here 122-112-a, if placed flat before the eye, would the ordinary observer looking at them, get a true representation, or should they be placed in an arc?

A. For true representation, they should be placed in an arc.

Q. With each photograph at right angles to the bearing at which it was taken?

A. Yes.

Q. So as a matter of fact there is no point there, where you get the same view as you would by stretching this picture out straight?

A. No, because it is broader than the angle of vision as ordinarily view by the human eye.

Q. My point being this is and should be out straight before you can glance from one side to the other. The view is not the same as if I stand at the point from which the panorama *as* taken and look?

A. No, because you are viewing from a straight line and the [fol. 558] picture is across.

Mr. Rieser: Would there be any material difference between the straight flat surface and the curved surface?

A. That is very hard to say. It would depend a great deal upon the ability of the person viewing the picture to comprehend the things before him.

Q. That is, it would depend upon his familiarity with the particular region?

A. Not only that, but his ability in seeing what a photograph represents.

By Mr. Sawyer:

Q. In speaking of the recording of objects at different distances upon the same plane, is there any point in a photograph in which it results that an object at a distance is brought closer than a similar object at any other point in the photograph?

A. I want to be sure of your meaning.

Q. For instance, if there was a stump that was 100 feet away here, and one over here that was 100 feet away, if you took a picture, would that look closer (indicating) or would the one on the side look closer?

A. They would look the same providing the surroundings are the same.

Q. The distance in the photograph is often judged by the relation of the object you are viewing with some other object, isn't it?

A. Yes.

[fol. 559] Mr. Rieser: And your ability to read these photographs would apply to any kind of a photograph?

A. Yes.

Mr. Rieser: I wish to renew my offer of the Exhibits 122, 122-a; 123, 123-a; 124, 124-a; 128; 125; 126; and 127.

Mr. Sawyer: Until the date is shown, I wish to retain the other objection, but when the date is shown, I will just have the objections that it is too remote from the time and the conditions existing when the grant to the State of Michigan became effective, and that it is self-serving testimony originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial.

Witness excused.

H. R. Aldrich recalled on behalf of defendant and cross-examination continued by Mr. Sawyer:

Q. Referring to the copy of Defendant's Exhibit "7" in connection with Douglass Houghton's Travels in the Montreal section in 1841, did I understand you to say that Hemlock Creek was a fairly accurate portrayal of the West Branch as it exists today?

A. It occupies the general location of the West Branch as it exists today.

Q. But the proportions and directions are they similar or are they [fol. 560] entirely dissimilar, comparing it with the East Branch there, and also on the corrected map of today?

A. The chief point in similarity is perhaps the location of its junction with the Montreal.

Q. Aside from that, it is almost entirely dissimilar?

A. That position being correlated by means of the geology as well as the configuration of the stream.

Q. The junction above the stream, does it correlate correctly with the geology on that point—he shows Hemlock Creek not to pass through the second trap of the range?

A. The stream actually passes through the second trap. The stream labeled "Hemlock Creek" does not present the same degree of similarity.

Q. And the comparative size as to length and source of the stream labeled "Hemlock Creek" in relation to the stream shown to be the Montreal is distorted from the comparative size on the true map of today?

A. If the size of the stream is measured by the width of the line.

Q. The comparative size as to the length of the stream and as to the source of it. The comparison between this and that here and this and that here (indicatnig)?

A. In such features that stream is not in agreement with the present map.

Q. And is it to such an extent that from your knowledge of read- [fol. 561] ing that microscope you would say the author of that sketch never saw that stream?

A. In its entire length?

Q. In its length beyond the second range of trap?

A. The diagram speaks for itself since he puts the headwaters of the stream north of the trap range.

Q. Then if you will make your answer more complete. I asked you if you would think the author ever saw that stream beyond the second trap range?

A. So far as this diagram is concerned, I would believe that he never saw the headwaters of the upper portions of that stream.

Q. Beyond the second range of trap?

A. Beyond the second range of trap.

Q. I believe you testified Mr. Aldrich that you were with these Indians who exhibited to you certain places that they said were the old trail. Have you ever traveled much in the woods?

A. Quite a considerable.

Q. Have you ever seen a game trail?

A. Oh yes.

Q. And you have seen the cow paths that are frequent in pastures?

A. Yes.

Q. Was there any distinction between the trail the Indians pointed out to you and the game trails and the cow trails?

A. Cows don't blaze for one thing. The blazing would be differ-
[fol. 562] ent certainly. The trails were so located topographically as to indicate some degree of common sense in choosing the location of the trail.

Q. Was that evidenced in a greater degree than animals usually show in going from place to place?

A. I think so. I was brought up in Boston.

Q. Was there anything aside from the blazing by which you could tell that it was an old Indian trail?

A. I have my own appreciation.

Q. I mean was there any characteristics of the trail which would indicate it was a trail made by human beings rather than animals, aside from the blazing?

A. I think of none.

Q. Was the trail distinct at all points or only at certain points? At the river crossings wasn't it?

A. It was particularly distinct at river crossings and in the big timber where it was as it was.

Q. Where there had been no fires?

A. Yes.

Q. Were you able to follow the blazes where it was distinct from one to another, where there were any markings at all, or did you have to lose the trail and pick it up again?

A. We were not continually in possession of the trail.

Q. Did you examine the surrounding country to determine that there were not several trails practically parallel?

A. In certain parts, not within a quarter of a mile, was there a similar parallel trail found.

[fol. 563] Q. And how far each side of this trail did you examine the country for the purpose of determining whether or not there were other trails which might have been the main trail or parallel trails? How far to the side of the trail that was pointed out, did you examine the country for the purpose of discovering others?

A. With that intent in mind, no distance.

Q. So, so far as you know, there may be half a dozen trails running through that country in the same general direction?

A. I doubt it.

Q. You don't know of your own knowledge that there are no other trails showing equally distinct physical characteristics?

A. In general, within a distance of a quarter of a mile either side of the trail where it was found, I believe there were no trails of comparable size or description paralleling this.

Q. Was there any evidence of a custom in use on the trail of scattering as between the crossings of rivers and surmounting their physical difficulties?

A. If I get you right, definite crossings but indefinite portage between crossings?

Q. Yes?

A. I saw no such evidence.

Q. You think the trail was just as definite between physical ob-

stacles, as to surmounting physical obstacles, either a ridge or river [fol. 564] or forest?

A. So far as I know.

Q. Did I understand you to say that you prepared this map or it was prepared under your direction?

A. I shared in the taking of the data as well as supervising of the taking of it all.

Q. And the preparation of the map was under your supervision?

A. Yes.

Q. Referring to the dotted lines and the heavy lines to show the confines of the stream, I will ask you whether those are meant to delineate the banks of the river or merely the edge of the water at the time it was observed?

A. The edge of the water.

Q. Then this does not in any manner portray the banks of the river at the time?

A. It depends on how you define the bank.

Q. In your observation there, did you or did you not know that at these points, there was a well defined bank on which timber grew, and it was of long standing, which would not be flooded except in case of spring freshets?

A. The banks varied and in some places they were stable banks and timber growing and in other places, they were shelving banks.

Q. Showing you Plaintiff's Exhibit 171, I will ask you whether the lines on the outer part of that map are not a correct delineation [fol. 565] of the banks of the stream at the confluence?

A. Where the banks again imply what?

Q. Such a bank that is considerably above the bed of the stream and on which you will find growing timber of many years standing?

A. I don't think they do.

Q. Would you know whether or not they do?

A. I have a pretty clear mental picture. I have this as a record of my impression at the time.

Q. Did you make any effort to delineate the banks which would confine the river in the ordinary flood stages?

A. This was made at a time when perhaps the water was at a real flood stage, so having drawn those boundaries at that time, I believe they come as close to indicating the banks of the stream at high flood.

Mr Rieser: What exhibit are you referring to now, as you are making your statement?

Mr. Sawyer: Exhibit 120-a.

Mr. Sawyer: Have you ever seen the banks of the Montreal in the spring when all the banks are overflowed?

A. No sir.

Q. Have you ever seen it at any time other than the dates given in the map?

A. Yes.

Q. At what season of the year, not trying to confine you to the date?

[fol. 566] A. In the summer season of 1924.

Q. Have you ever seen it in the spring freshet season?

A. No sir.

Q. Did you in your examination of the confluence make investigation in reference to washes and state whether or not the washes were recent or of old standing?

A. Investigation—no.

Q. Calling your attention to Exhibit 171, to the cutoff from the West Branch which enters the East Branch slightly above the point which might be called the confluence, and calling your attention to the fact that there was nothing of that nature portrayed on your map, I will ask you whether or not you saw that wash through there?

A. Yes, this which is labeled on this exhibit as "Creek" is what in our terminology we call a "Slough"—it is low country.

Q. Can you with a pencil locate that exactly?

A. I could not locate that exactly.

Q. At the time you were making your examinations of the confluence, was there a difference in the color of the water of the East and West banks; I have reference to the fact heretofore testified to that the West Branch water is much more highly colored by red ore discharges than the East Branch?

A. In the near vicinity of the confluence, I have no recollection of the difference in color. I waded this stream in there about two [fol. 567] miles up stream of the main Montreal.

Q. Was that fairly clear?

A. That was fairly clear, as such a stream goes.

Q. Do you recollect whether from the confluence down it was rather reddish?

A. I recollect nothing as to that. In ascending the West Branch above the log jamb, I recollect it being silty, cloudy, roiley and reddish. I ascribed the change in the character of the water from marked murkiness, cloudiness or roiliness as compared to the water down here, to the filthiness of the 196 paces of jamb.

Q. Have you ever seen water flowing through this slough?

A. I don't recollect ever seeing water flowing through there. There was stagnant water in places.

Q. Would you have any reason to doubt the statement of engineers to the effect that they found water from the west branch flowing across to the east branch to that slough, which fact was determined by reason of the color of the water of the West Branch being more noticeable than that of the East Branch?

Mr. Rieser: Objected to as assuming facts not in evidence, and assuming facts that the expert witness of the plaintiff did not testify to.

A. I have reason to doubt the presence of such a contribution of water from the West Branch.

Q. Did you run any levels of that whatever?

[fol. 568] A. The actual location of all levels run were not shown on that map.

Q. Isn't it a fact that there is considerable fall on the river, whereas on this branch there is practically no fall until you reach a certain point here?

A. No.

Q. About where you give the width of the West Branch here as 13 feet, would be above this point here, where you give the width 34 feet, in level, just from your general knowledge of the river?

A. Presumably it would be of greater height here (indicating).

Q. And if there was a slough from this point to that, gravitation would cause the water to run this way from the West Branch to the East Branch?

A. Very reasonably so.

Q. Can you indicate on this map where the gauge station on the West Branch was placed?

A. My belief this is beyond the confines of that map.

Q. These various outlined islands or places within your lines marked "Gravel Bar"—do those lines distinguish the banks of the islands on which the timber grew or do they distinguish the edge of the water?

A. The edge of the water.

Q. Then, as a matter of fact a map of this river made when the water was three or four feet higher than when you saw it, would be entirely different and great portions of what you have shown as land or gravel bar, would have been water, and portions not [fol. 569] delineated would have been islands, is that true?

A. Yes.

Q. As to the point directly east of the gravel bar, whether or not the water would spread to a considerable distance here and here and would make islands out of these—in other words, does that dotted line indicate the extent to which it would spread?

A. That indicates the extent to which it did spread at that time.

Q. And a further raise would spread it even further?

A. By nature it would, yes.

Q. You remember there was no decided bank at this point which would stop it?

A. My recollection is there was no such bank.

Q. Now are the soundings given on this map the only soundings that were taken?

A. I believe they were the only soundings taken; they would all be there.

Q. This portion of the river at the top of the map down stream from the confluence—there are no soundings taken in that?

A. No sir.

Q. Directing your attention to the two channels of the river on this map which are shown one to have been dry—the channels being the first division coming up stream, I ask whether or not you examined the bed of the river and other conditions, to determine whether or not that condition had always existed?

[fol. 570] A. I am not sure I get your question. Naturally they didn't always exist, as they were not there at that time.

Q. Quite probably a temporary damming of this branch, throwing the principal volume of water down this branch, would wash this channel slightly deeper, so that it would continue to be the channel in low water, would it not?

A. Yes.

Q. The character of the bottom of the stream is such that it might be washed out in one place for the matter of a foot or two and piled up in another by reason of shifting currents?

A. Yes, things shift, yes.

Q. And it might readily occur that if this should be the channel in low water and that by reason of obstructing of that and forcing the water down this channel, another year this might become dry and this carry all the water, is that true?

A. Perfectly possible.

Q. And was there any indication that that had not occurred many times since 1836?

A. I never passed upon the point.

Q. You did not give any consideration to that?

A. I believe the conditions there existing have been essentially the same for a great number of years. There is timber on the large island.

[fol. 571] Q. It was apparent that the large island has been there for some time, has it not?

A. Yes.

Q. As to the age of any of these channels, this one—referring to any of the channels between the islands and the bank—would it be possible to tell whether those were in excess of two or three years old? So far as you know, this entire channel may have been washed through there within the last five years?

A. I believe the essential changes would be in tens of years rather than in single years.

Q. For what reason do you say that?

A. I believe the work necessarily to be done to change those would require the attack of the stream agencies through tens of years rather than years.

Q. Have you ever had any experience with that subject?

A. Not particularly.

Q. Assuming this channel to have been entirely blocked off and requiring all the water to discharge down this other channel, would not the condition that you saw have existed at the end of the second year?

Mr. Rieser: Objected to because there is no evidence that that condition ever existed and the evidence is entirely to the contrary.

Question read: Assuming this channel to have been entirely blocked off and requiring all the water to discharge down this other channel, would not the condition that you saw have existed at the end of the second year?

[fol. 572] A. Not as I know the stream.

Q. In what essential would it differ?

Mr. Rieser: Object to this testimony for the further reason that it is improper cross-examination and cross-examination upon questions upon a phase of the case which was not covered on direct examination and examination as to matters on which the witness has said he has had no particular experience.

Mr. Sawyer:

Q. In what essential would it differ?

Mr. Sawyer: I will explain what I was asking——

Mr. Aldrich: If you were approaching the measure of time and changes that would occur, I don't think you can value changes in years—I don't think you can say so much work represents the work of two years and so much five years.

Q. You mean then that you don't think there would be any method of telling what length of time it would be?

A. Not precisely.

Q. And so far as you were able to determine there might not have been any channel at all on that side of the island in 1836?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and improper cross-examination.

Q. So far as you can tell the entire river may have gone through this channel on the extreme western bank and there may have been no channel on that side of the island in 1836?

A. So far as I can tell absolutely no.

Q. You mean yes, don't you?

[fol. 573] A. So far as I am able, I can't tell.

Q. Whether there was a channel or was not in 1836,—The only determination that can be made of the condition of this confluence in 1836 is a determination from the line in the established line shown by timber and other formations which have been of long existence?

A. Chiefly topographical evidence.

Q. And no record whatever of those evidences is on this map aside from possibly this stump?

A. No.

Q. Now referring to the log jamb on the river on the East Branch and the other one on the West Branch,—you say those jambs were composed mostly of saw logs?

A. Mostly of logs—saw logs.

Q. Do you know what type of logs as to whether they were hemlock, pine or hardwood?

A. No.

Q. What size of logs are they as to diameter?

A. It might be a foot to 18 inches, perhaps average around fifteen inches.

Q. And were they apparently merchantable logs or culls?

A. Many of them were merchantable logs.

Q. Do you know whether either branch of the stream was ever used for log driving?

A. I don't absolutely know.

Q. And you don't know when it was used for log driving?

A. No.

[fol. 574] Q. The soundings that were taken under the log jambs, how were they taken—by breaking up the dam and measuring under it?

A. It is not difficult to sound through a log jamb. You can easily slip through with your own body.

Q. In taking this sounding, could that be taken as regular as they could be taken in open water?

A. Naturally not.

Q. And would there not be a tendency to excavate the bottom under these log jambs from the water rushing in under?

A. There might be some tendency.

Q. Of how long duration did you fix the dam on the East Branch?

A. On the East Branch I think I estimated it at perhaps thirty years.

Q. Was it a log jamb in the sense that it was formed by logs interlacing and blocking the stream, or was it merely the gathering of driftwood and logs mixed which had grounded on the bar so that they held together?

A. I couldn't say as to how that came into existence.

Q. Was it a dam such as a heavy flood would wash out?

A. I saw a particularly heavy flood and it didn't wash out.

Q. By a particularly heavy flood, did you see a flood that went over the banks of the stream?

A. As I defined the banks it is the margin of the water.

Q. I mean by the banks, sides of the stream which would retain a flood water at high stages, beyond which there was no evidence of wash?

[fol. 575] A. You refer to the maximum height of water?

Q. The spring freshet in other words? What I am getting at Mr. Aldrich, is this: isn't it a fact that that dam in all probability has been *been* occasioned by reason of the fact that the spring freshet no longer exists on the East Branch because the dam above Ironwood retaining the water and preventing the spring freshet?

A. As to the last I couldn't say, whether it was that or not.

Q. Have you ever seen a regular log jamb?

A. I have.

Q. I presume the same would apply to the jamb on the West Branch?

A. So far as judgment requires experience with a log jamb, I have not had any such experience.

Q. And you do know there is a dam reservoir on the East Branch above the City of Ironwood, and that would control the stream flow?

A. I don't know it.

Witness excused.

[fol. 576] The defendant to sustain the issues on its part, offered the following evidence, to-wit:

WM. O. HOTCHKISS, being first duly sworn on behalf of defendant, testified as follows:

Direct examination by Mr. Rieser:

Q. What is your business Mr. Hotchkiss?
A. I am a geologist.
Q. Graduate of what?
A. University of Wisconsin.
Q. What year?
A. 1903.
Q. And in what department?
A. I graduated an engineer.
Q. In what branch of engineering?
A. It was a special course in engineering called "General Engineer" for those who wished to go into mining engineering work.
Q. And since that time will you give your experience and work you have been doing up to the present time?
A. I took too an advanced course later. I took the degree of Civil Engineering in 1908 and degree of Doctor of Philosophy in 1916 at the University. After graduating, my work was in connection with mining work in the Lake Superior iron districts for the first year about and the first two years, and in Northern Ontario. Then I was instructor in the University for three years and then I was [fol. 577] employed by the Geological and Natural History Survey and have remained employed by them ever since. In 1908 I was made State Geologist, which position I now hold.
Q. And as State Geologist do you hold any ex-officio position?
A. I am the head of the Highway Department of the state.
Q. And have been how many years?
A. Since it was started in 1911.
Q. And your work relates to what phase of highway work particularly?
A. Well, it is related to all phases of the highway work, more largely perhaps to a question of materials for highway construction and that sort of thing.
Q. Has your work taken you pretty generally along the boundary line that is in controversy in this lawsuit?
A. Not along the entire boundary line, no. I have not visited the boundary east of the Montreal River down to Brule Lake, excepting to cross it on one or two places.
Q. From Brule Lake on down have you had quite extensive experience in that vicinity?
A. I have made detailed geological surveys in the region along the Brule River and Menominee river in Florence County, and down below the mouth of the Pine River and have visited numerous places along the river from there down to Quinnesec Falls, and last summer I made a trip with a distinguished party from Sturgeon Falls down to the mouth of the Menominee River.

[fol. 578] Q. And in that distinguished party was one other person and the special counsel in this lawsuit?

A. Yes.

Q. In connection with your work did you also make any other extensive study, or considerable study, in the vicinity of the Montreal River?

A. Yes, in 1912, I began work in connection with the Gogebic Iron Range up there, and that work has continued ever since until the last couple of years.

Q. And what has been the extent of that work in that region?

A. In connection with the mapping of that Geology, we have covered in very great detail the country for a couple of miles north and south of the Iron Range. In the first work that I did up there and in the later work, which was under Mr. Aldrich's direct charge, we have covered the area from the Iron Range clear to the mouth of the Montreal River.

Q. And are you familiar with the geology of that region for some distance above Hurley and Ironwood down to the mouth of the Montreal River?

A. I am.

Q. Have you also become familiar with the mines working in that region?

A. I have been in all the mines along there on both sides of the river for some distance.

Q. And have you been considerably in the mines on the Wisconsin side of the river?

[fol. 579] A. I have had to examine those mines very carefully, both in connection with my geological work and in my work with the Wisconsin Tax Commission; that has been part of my work since 1912, valuing those mines.

Q. Have you given expert advice and opinions to the Tax Commission for determining values of mines for taxation purposes?

A. Yes.

Q. And what is the range known commonly that these mines are in?

A. It is known as the Gogebic Range, or the Gogebic Iron Range.

Q. And the principal ore bodies of that range follow through somewhere near the cities of Hurley and Ironwood?

A. Yes.

Q. In connection with this lawsuit, have you given further study and attention to the geology in that region with the idea of determining the various drainage areas in that region?

A. Yes.

Q. And particularly with reference to the difference between the surface drainage area and the underground drainage area?

A. Yes I have.

Q. And from that study are you able to express any opinion as to the extent of the underground drainage area in the Montreal and the West Branch of the Montreal Rivers?

[fol. 580] A. Yes I am.

Q. And what can you say as to how the limits of the drainage area

above ground compare with the limits of the drainage area underground?

Mr. Sawyer: Objected to as no foundation laid and that it is too remote from the time and the conditions existing when the grant to the State of Michigan became effective; that it is self-serving testimony, originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial.

A. I have studied over very carefully the situation in the mines there with regard to the Geology and the underground pumping, and reached the conclusion that the water which is pumped from the mines which deliver into these two rivers, seeps into those mines as near as can possibly be told entirely from the surface drainage basins of those two streams; that is the water seeping from each drainage basin is pumped back into the same drainage basin as the water would have gone into had the water run off from the surface.

Q. And what would be the situation with reference to the water pumped for the use of the city of Ironwood for water works purposes?

A. At present it comes from the water plant on Spring Creek; that water, with such losses as would occur in the use of that water, the [fol. 581] evaporation, seepage into the ground or air evaporation practically entirely would return to the main Montreal River.

Q. Now with that condition existing in the Montreal River, following particularly what effect has the presence of the mines, from the fact that there is pumpage going on, on the run-off of the Montreal River?

A. The conclusion I reached, it did not materially alter the total run-off.

Q. And what can you say as to the West Branch?

A. And that also, the total runoff is not materially altered. I might say not appreciably altered.

Q. Are you also familiar with the location of the first stream gauges that were placed near Gile, and also near the City of Ironwood?

A. I am.

Q. Do you know how they came to be placed?

A. I do.

Q. Who co-operated in the placing of those?

A. I personally was instrumental in getting those gauges established. I secured from the Representative of the United States Geological Survey, who is co-operating with the Railroad Commission of Wisconsin in stream gauging work, an expression of willingness to put those gauges in if the Mining Companies would furnish an observor to make daily observations of the gauges, and I also secured from the Mining Companies their agreement to furnish those observors if the gauges were put in.

[fol. 582] Q. In what way were the Mining Companies interested?

A. Both streams cross the underground workings of the Mines there; as those workings become more extensive, there may be settlement in the ground, letting the stream into the mines, causing great

loss, possibly loss of life as well as property, and the object the Companies had in making these observations was to obtain information with regard to the exact quantity of water that passed through those streams throughout the year, so that if at any future time, works of any kind were necessary to carry that stream over certain grounds, they would know what basis to plan those works on.

Q. Have you examined both streams quite extensively?

A. I have.

Q. And in what particular localities?

A. I have seen the Montreal River at its mouth and up stream for a number of miles to where the old trail crosses it. I have visited the junction of the Montreal and the West Branch. I have seen the two rivers at the place where the gauging stations are at Hurley and Gile. A great many times in the years I have been going back and forth on that range there, I have seen the stream for a short distance up above Hurley, and the West Branch for a short distance up above Gile. Perhaps a mile or more in the case of the Montreal River and perhaps a half or three-quarters of a mile,—oh [fol. 583] I guess it is over a mile in the case of the West Branch; and then last summer, I visited the confluence of Lehman's Creek and Pine Creek at the headwaters of the main Montreal.

Q. Did you make an examination of the confluence of the West Branch of the Montreal River and the Montreal last summer in 1924?

A. I did.

Q. On more than one occasion?

A. No, only on one occasion.

Q. And what was the nature of your visit there?

A. I was requested to go there by the Attorney General's office to make a study of the confluence of those two streams in connection with this boundary dispute.

Q. And did you spend any length of time at the confluence there studying the conditions in that vicinity?

A. I did. I was there for a considerable number of hours—I don't remember just how long.

Q. And particularly with reference to determining the relative size of the two streams at the confluence?

A. That in part, yes.

Q. And the conditions there, so far as they would reflect the size of the two streams at the confluence?

A. Yes.

Q. Did you also direct the taking of the photographs which have been identified here, as Defendant's Exhibits 122, 122-a, 123, 123-a, 124, 128, 125, 126, 127, 127-a?

A. Yes I did.

[fol. 584] Q. And did you direct the taking of those photographs?

A. I did.

Q. And did you at that time take minutes as to where those various photographs were taken from?

A. I did.

Q Have you referred to the key chart here Exhibit 120-a to determine whether or not the points of taking those pictures are correctly noted on those charts?

A. I have.

Q. And what is the fact?

A. They are correctly noted.

Q. And what was the time or the date at which those photographs were taken at the confluence of the West Branch and the Montreal River?

A. I think it was July 27th, 1924.

Q. Have you examined Exhibit- No. 120 and 120a to determine whether or not that exhibit correctly shows the condition of the two rivers at the confluence?

A. I have.

Q. What is the fact as to that?

A. They show the conditions very accurately.

Q. Calling your attention now to Defendant's Exhibits "122," I will ask you to identify the various streams on that by the letters on the Exhibit?

A. The West Branch of the Montreal in this Exhibit 122, is shown by the photograph marked with the letter "E" at the top of the center. The main Montreal runs through all of the pictures in the foreground of all of them from "B" to "G" inclusive, and in [fol. 585] the near distance and the central part of the picture in photograph lettered "A."

This water in the foreground is the East Branch of all of them. There is a correction there, the junction of the two is in photographs "E" and "F" and the water shown in "G" would be the combined flow of both streams.

Q. Calling your attention now to Pictures "E," "F" and "G" of Exhibit 122, and particularly the riffle in the foreground, in the foreground of each of these pictures, did you examine that to any extent when you were there?

A. I did.

Q. And what can you say as to the water above that riffle and the water in the immediate foreground of that riffle?

A. The water is shallow back of the riffle in the photograph, and drops perhaps a couple of inches or thereabouts in coming through the riffle into the main channel which occupies the foreground in front of the riffle in the photographs "E," "F" and "G."

Q. And what can you say of the water of the channel in the immediate foreground between the bottom of the picture and the end of the riffle as to depth as compared with the water beyond the riffle?

A. It is several times as deep.

Q. And in that area, where does the water come from that joins with the water from the West Branch?

[fol. 586] A. It comes from the left on the picture up stream from the main Montreal River.

Mr. Sawyer: What water is that?

A This in the foreground here. He is asking for those in the

foreground in front of the riffle. The water coming through the riffle is coming from the West Branch.

Mr. Rieser: Now, what can you say as to the extent of the riffle that we have just referred to with respect to the waters that come from the West Branch of the Montreal River?

A. It extends clear along and makes a barrier between the main channel and the waters coming in from the West Branch—I mean the deeper channel.

Q. And what can you say as to whether or not that deeper channel extends Northeastward beyond the place where the waters from the West Branch come along as shown on Exhibit "E"?

A. It extends for some distance along there over into Photograph lettered "B."

Q. And what can you say as to the comparative velocity of the water coming down from the main stream and the water coming down from the West Branch?

A. It was swifter in the region where the two streams come together.

Q. And how do you account for the presence of the riffle at the confluence?

[fol. 587] A. That's a very common phenomenon present, where weaker flowage joins stronger flowage. Where the small amount of water is unable to carry its channel and deposits the material which it carries because it is slowed up by the water of the main channel. That is a common phenomena in streams.

Q. And from that where would you say the deposit which forms these riffles comes from which stream?

A. It comes partly—I would say chiefly from the West Branch, and a portion of it is probably deposited by the water from the main stream. The Main Montreal, because of the slowing up of the water at the junction of the two streams and just along the side of the channel, in Photographs D and E—that portion which is in Photograph D and in the left portion of photograph E is rather evidently deposited by the Main Montreal. The cobblestones which make the riffle in the right part of photograph E and in F and G is probably in considerable part brought in and deposited by the West Branch.

Q. Is there any indication along that region of the filling in of soil and washing, etc., into that channel?

A. Of the washing in of soil?

Q. I mean the washing in of gravel and sand from the West Branch?

A. All of the material that makes the bottom of the stream is transported—material carried by the streams.

[fol. 588] Q. In view of that condition that you have described there, what is your opinion as to which of these streams is the main stream?

Mr. Sawyer: Objected to as no proper foundation laid and that it is too remote from the time and the conditions existing when the grant to the State of Michigan became effective, and also that it is

self-serving testimony originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial.

A. I should say without question that the main stream is what is known as the Montreal River, distinguished from the West Branch.

Mr. Rieser: What can you say as to whether or not there is any indication of any recent changes in the vicinity of the confluence of the two streams as shown on Exhibits "E," "F" and "G," of Exhibit 122?

Mr. Sawyer: I object to that on the ground the witness has not qualified himself to answer that question and no foundation is laid for it.

A. The recent changes indicated in the photographs mentioned are very slight. There is drift wood there which is comparatively recent. There is a steep bank shown in Photograph lettered "F," and also shown in rather hidden fashion because the brush obscured it in the right of Photograph "E" of steep banks which could not [fol. 589] be so very old, vertical banks or even overhanging.

Mr. Rieser: What can you say as to whether or not there have been any material changes within the last one hundred years in that vicinity?

Mr. Sawyer: Same objection and also that it is too remote from the time and the conditions existing when the grant to the State of Michigan became effective, also that it is self-serving testimony originating after knowledge of the dispute arose and was designed to further the interests of defendants in a dispute then political rather than judicial.

A. There is very good evidence in the trees growing as shown in the photographs, that any changes in a very considerable number of years—fifty or sixty at least, from the trees which are shown there, have been—the changes that occurred in fifty or sixty years—have been minor in nature, changes of a few feet perhaps in the position of the bank of the stream.

Q. Would you say that there is any possibility of the channel shown at "E," having been cut through there within the last 100 years?

A. I see no evidence of that, no.

Q. And in this connection did you also examine the stump marked "Exhibit 128"?

A. I did.

Q. At the time you were up there?

A. I did.

Q. And did you count the rings in that stump?

[fol. 590] A. I did.

Q. What is the fact as to whether or not that is the usual way in determining the age of the tree?

A. That's the recognized scientific fact, that a tree put on a ring in a year, and I counted those rings and found 105 in this tree.

Q. And that tree is situated in the center of the large island, shown on Exhibit 120a, at the point there indicated?

A. Yes, it is marked with an X labeled "Stump."

Q. And that observation was made again on the same day when you were there when the pictures were taken?

A. Yes.

Q. Now referring to Exhibit 122-a—that was taken down stream from where the other Exhibit 122 was taken, is that right?

A. Yes.

Q. The picture "E" on that exhibit, what does that show?

A. It shows in the foreground a portion of the dry gravel run, which comes around the west side of the large island with the stump on it. On the right partly concealed by the brush is the higher ground marking the bank on the stream in high water when the water comes through that channel. In the distance in the photograph behind the man standing there and the tall tree inclined is the high ground of the surrounding country, perhaps fifteen feet above the level of the river.

[fol. 591] Q. And from there, going on into Picture "D," what does that show?

A. That shows in the foreground, the same bare gravel bar, and in the middle distance the stagnant water by the pile of rubbish, driftwood, and the high ground in the background, and on the left side of the picture is the East Bank or southeast bank on the dry run which comes around the west side of the island.

Q. You refer now to the right of the athletic looking gentleman that is standing in that picture?

A. Yes.

Q. Now, does the picture "D" take in the limit of the dry-run there, or does it extend on into the picture there?

A. The background, or the middle distance of that picture does include the whole of the run. In the foreground it extends over into Picture "C" just a little bit.

Q. Now that region between the right of the picture "C" then and the extreme right of picture "E," shows then the channel that is indicated on Exhibit 120, by the name "Bare Gravel"?

A. To the north and northwest of the Big Island.

Q. And at the time you examined that, was there any water flowing through any part of it?

A. No.

Q. The water that you see in pictures in the left of Picture C, and from there on over to the left of Picture A, where does that water come from?

[fol. 592] A. That water comes down to the east of the Big Island—that is the Montreal River.

Q. And is the Montreal River with any other water added to it?

A. It is the water from both the West Branch and the East Branch.

Q. Calling your attention to the little bay about opposite the northerly end of the large island on the other side of the Montreal River, is that shown on Exhibit 122-a?

A. It is shown in Photograph A, the point marking the West side of that little bay, is the left side of picture "B."

Q. And in picture "B" of that same exhibit, the high point where the young man is standing on there, with his hands in his pocket, how is that shown on Exhibit 120?

A. It is shown as a Bare Gravel Point, extending out to the north between the Bay and the channel of the river.

Q. Any indications that that little bay of water running southeasterly, of water running through there at certain stages of high or flood water?

A. Yes, there is bare gravel extending from that bay up stream, I would say from 150 to 300 feet. It connects with the Bare Gravel marking the edge of the water up stream 150 to 300 feet above the point that gives an extent of bare gravel along the bank of the main stream up above about 150 feet long.

[fol. 593] Mr. Sawyer: That is 150 feet up and down stream?

A. Yes.

Mr. Rieser: What can you say as to indication of any change in the channel around the large island the beginning of which is shown in Exhibits D & E and on Exhibit 122-a?

A. In what time do you mean that change? There is evidence that the last flood went through there shifted gravel on the bottom.

Q. But any change, shifting the course of the feeding of the West Branch of the Montreal River?

A. There is evidence in the wooded condition of the large island, with the small trees which show in the photographs and the larger trees which are common on this island that this island has presided as such in a longer period than the big stump in which we counted the rings, and there is evidence in the high bank on the west of this dry gravel run, that there is no change in probably a long time—probably many hundreds of years.

Q. No evidence of any change in the bed of the stream in the last hundred years?

A. No, there is none that I can see.

Q. Calling your attention now to Exhibit 123-a, I will ask you if you know where that picture was taken?

A. Exhibit 123-a was taken somewhat further down stream than the Panorama No. 2 The photographer waded out toward the east side of the stream and down stream farther than is shown by the [fol. 594] map Exhibit 120-a. That photograph looks up stream at the north point o fthe big island where the two figures are standing and toward the mouth of the dry gravel run where the single figure is standing.

Q. The dry run where the single figure is standing, where does that go to with reference to the large island?

A. That comes around the west side of the large island.

Q. In other words, it shows the same section of the dry run that pictures D and E of 122-a show?

A. Yes.

Q. Calling your attention to the end of that dry run or the water's edge, what can you say as to the level above the level of the water that this dry run is?

A. I took no levels on that at all, but my impression was it was about 6 inches to a foot of the water in the river at the mouth of the dry-run.

Q. Now from the fact that there is water standing back in Pictures D and E, are you able to say whether or not the dry run is higher right near the water's edge than it is further back?

A. It is.

Q. And how would you account for that?

A. The channel upstream in the dry run narrows and the current would excavate that channel somewhat more deeply there and that material would be deposited in part in the wider portion of the dry run toward its confluence with the main river.

[fol. 595] Q. What would be your judgment as to the length of time it would take to increase the height of that deposit at that point materially?

A. That would be—it would depend on what you meant by materially and the size of the flood—a two day flood with two or three feet of water coming through that dry run, it would be possible that that would raise that several inches; if the flood stage was higher and the stream flow stronger it might raise it more. Again, such a flood might excavate through some weaker portion of that part—might excavate a channel and lower it. Those flood changes are not all increases or decreases.

Q. So that as far as this bed of the stream is concerned, in that Region, "D" and "E," can any one say with any degree of certainty, now, that the condition is identical with that of 1840 or 1836?

A. No, they cannot.

Q. Or substantially that?

A. Not from what is shown in the photographs, but from what is shown further up the channel you can say there has been no material change in that situation.

Q. And why is that true?

A. Because of the narrowness of the channel up above and the permanent narrowness. I mean the narrowness as permanent since a hundred years ago approximately, is such that no large portion of the flood waters could go through there, and consequently the changes in that would be of relatively minor order.

[fol. 595] Q. Referring now to Defendant's Exhibits 124-124-a, I will ask you to state the location where those pictures were taken?

A. Exhibit 124 is taken from a log across the channel between the south end of the big island and the little island to the east of it, looking northward at the gravel bar which marks the junction of this channel with the deeper channel to the east of it.

Q. That is the channel between the small island and the large island?

A. Yes. And photograph Exhibit 124-a was taken from the lower end of the gravel bar, looking a little east of south at the end of the smaller island, lying just east of the big island.

Q. And showing the same bar?

A. Showing the same bar as in Exhibit 124.

Q. Exhibit 123?

A. Exhibit 123 is taken from near the East Bank of the river from a point just north of the edge of the map. Exhibit 120-a looking directly toward the north point of the big island on which there are three figures standing. It shows the mouth of the dry run and the channel to the east of the big island.

Q. When you say the mouth of the dry run, where does that run?

A. That runs around the west side of the big island and in that dry run there is a lone figure standing.

[fol. 597] Now we have been using the word "riffle" from time to time in your testimony. Is that equivalent to the words "Gravel Bar" which appear in Exhibit 120-a?

A. Well, I have been using it in practically the same sense. It is where the water running through the summit of the gravel bar causes the riffle in the water.

Q. And the rocks and boulders that you have referred to in the various exhibits as causing that riffle, are what are represented by the words "Gravel Bar" is that right?

A. Yes.

Q. And do those pictures that you have referred to here now correctly show the situation as you found it there at the time you examined it?

A. They do.

At this point an adjournment was taken to March 12th, 1925, at 9:30 o'clock in the forenoon at the same place.

9:30 A. M. March 12th, 1925, the hearing was continued in the Hearing Room of the Capitol Building, at Madison, Wisconsin.

All parties and counsel for plaintiff and defendant were present as before.

[fol. 598] Mr. Wm. O. Hotchkiss, on stand, examined by Mr. Rieser on behalf of defendant.

Q. Mr. Hotchkiss, calling your attention now to Plaintiff's Exhibit 171, I ask you whether or not you have seen that before?

A. Only as I have seen it lying on the table here.

Q. That you understand, was prepared to show the confluence of the two streams, the West Branch of the Montreal and the Montreal River?

A. The map indicates that.

Q. And have you examined that map?

A. To some extent, yes.

Q. And what can you say from your knowledge of the confluence as to whether or not that map correctly shows the conditions at the confluence?

Mr. Sawyer: I desire to interpose the objection that it is not shown that he had seen the confluence at the time that map was made.

A. This map is evidently a sketch map of the junction of the two streams and the country immediately to the north of the junction. It is what I would call a rough sketch map and is quite inaccurate.

Q. And in what respects particularly, will you point out?

A. It is inaccurate as to the shapes and sizes of the islands; it in inaccurate as to the course of the streams. If, as I understand, it [fol. 599] purports to show the permanent banks of the streams, it is inaccurate in showing that.

What is labeled on the map as the "East Branch" comes in from the southeast and there is shown a strong re-entrant to the east where this river comes in to the north end of the mass of islands shown on the map, which never was there on the ground within recent years because of the conformation of the country there. The three small islands just to the north of the mouth of what is labeled East Branch, although inaccurately sketched are presumably gravel bars as shown in some of the photographic exhibits, which would be covered by any such stage of water as would be sufficient to fill the outer banks as indicated on the map, so that it is not correct portrayal of the stream either in high or low water. I might state further that I make this statement by comparing this map with the actual photographs of the area shown here, which are Defendant's Exhibits 122- 122-a. There is a further inaccuracy, which is very clear, shown in the photographs in Exhibit 122, Photograph lettered "E." This photograph was taken from the Northeast bank of the main channel and looks up the West Branch.

There is no point on this map, plaintiff's Exhibit 171—there is no place on that map from the northeast bank of the streams, where such a photograph could be taken as indicated on this map.

[fol. 600] Mr. Rieser: I would like to have you refer now to Defendant's Exhiibt 107, and I ask you whether or not you can identify the West Branch of the Montreal River on that map?

A. I can.

Q. And where is it?

A. It is down the stream labeled "Montreal River" near the southeast corner of lot No. 22 on the map.

Q. And is labeled what river?

A. It is labeled "Middle River." I identify that by the mouth of the stream. That is by the figuration of the main stream and the junction of the two, not by the course of the West Branch up stream.

Q. Now I ask you to refer to Wisconsin Exhibit "7" that part of that exhibit referring to the Douglas Houghton notes made in 1840, and following the notes of August 15th of that year, call your attention to a sketch map and ask you whether you are able to identify the location of that map and particularly the shadings?

A. I can.

Q. And what is that?

A. It shows that mouth of the Montreal River and up stream from the mouth there is dark shading which shows heavy conglomerate formation.

Q. And from your knowledge of that country, what can you say as to the accuracy of the location of that?

A. It is a very closely accurate sketch map. It is evidently not [fol. 601] a map that is chained and a map in detail, but easily identified with the maps of the present day.

Q. And does that refer to the same conglomerate as shown on Exhibit 355?

A. It is the same conglomerate as shown on the Northwest corner of this map Exhibit 355.

Q. Now calling your attention to Wisconsin Exhibit No. 7 the notes for the same year, under date of August 17, 1840, and the sketch following the notes for that date, I ask you whether or not you are able to locate the various matters shown on that map?

A. There is no sketch following August 17th, notes.

Q. In the middle of August 17th notes?

A. Yes, it is sketched, but it is not in the middle.

Q. Following the first four lines of the August 17th notes?

A. That sketch shows the lower course of the Montreal River and its mouth in Lake Superior. It shows the trail followed by Mr. Houghton and it shows a small stream entering the Montreal River; it also shows the geology of this area and the conglomerate a few miles up from the north, then the ancient lava flows, commonly known as the Keweenawan Traps, and at the left edge of the sketch it shows in heavy shading a high ridge which marks the southern edge of this Keweenawan Trap series. The little stream tributary to the Montreal River is shown to be crossed by the trail in three [fol. 602] different places,—one marked 20th pause, one midway between the 20th and 30th pause, and one midway between the 30th and the next mark, which I am unable to make out, right at the edge of the dark shading.

Q. Can you locate the same formation on Map, Defendant's Exhibit "355"?

A. Defendant's Exhibit 355, the line between the conglomerate and the dark shading about on this sketch one inch from Lake Superior, is the line shown near the Northwest corner of Defendant's Exhibit 355, with the word "conglomerate" on one side and "traps" on the other side. (That is that line—(indicating).) The place on Defendant's Exhibit 355 to the southeast of the yellow shading or to within about two miles of the yellow shading, is represented on the Houghton Map by the light shading with small black areas in it. The heavy dark shading at the left side of the Houghton sketch is the region of abundant outcrops shown on Exhibit 355, and occupyong the area approximately two miles in width north of the yellow shaded area.

Q. North is it?

A. Northwest of the yellow shaded area. Do you want me to identify that?

Q. Yes.

A. The small tributary to the Montreal shown on the Houghton sketch is indicated on Defendant's Exhibit 355 at the first crossing of the trail as shown on the Houghton map. This crossing is shown in the extreme southeast corner of Section 27, Range 47 [fol. 603] North, Town One east on Defendant's Exhibit 355.

The second crossing on the Houghton Map, which is shown midway between Pause 20 and Pause 30, is a corner of this same stream near the South quarter post of Section 36, Town 47 North, Range one east.

The third crossing shown on the Houghton Map as midway between Pause 30 and the heavy black shading at the left edge of the sketch, is a stream crossing where the trail on Defendant's Exhibit 355 crosses the Chicago, Northwestern Railroad Track in Section 7, of Town 46 North of Range 2 East. I might state here that this map is copied from the Michigan Exhibit, and the ranges and towns on the top and bottom of this map are interchanged; so the description I have given is the correct one and not as indicated on this map.

This portrayal of this crossing is the sort of thing that would be made by any one going along that trail and sketching its topography, not knowing the territory of the stream. The first stream went to the east and the other to the west and the natural assumption was that they joined.

The third crossing was going east and the assumption was that that turned around and joined the one going west, and that is the way Houghton showed it on his map.

[fol. 604] Q. And that is an error on the Houghton map?

A. Yes.

Q. From that sketch and your familiarity with the country would you say that that map was drawn from actual examination of conditions in that vicinity?

A. Unquestionably so, whether by Houghton or not. He might have taken somebody's else word, who had examined it.

Q. Now turning around and examining Wisconsin Exhibit No. 7, the notes for 1841, about in the middle of those notes, for July 27th, call your attention to another sketch, and ask you whether again on that sketch the conglomerate and trap masses that you have described in connection with the last preceding sketch are again shown?

A. They are.

Q. And in substantially the same relative location

A. Yes.

Q. Now again there the trail is also shown, is it not?

A. Yes.

Q. And from your examination of that map are you able to say which of those streams is the West Branch of the Montreal River as shown on that sketch?

A. Yes, it is the stream indicated on this copy as Hemlock Creek.

Q. And what can you say as to the actual location of the conglomerates or the traps in that region with reference to the falls

[fol. 605] indicated on the Houghton Map—are they substantially as Houghton located them on his map?

A. Defendant's Exhibit is readily identifiable with this much less accurate map. The word "Trap" on the Houghton map is shown just above the marks across the river which are indicated as "Falls", and on Defendant's Exhibit 355 there are outcrops or seams of trap rock in the same relative relation to the falls. So that the indication of trap rock on the Houghton map is readily identifiable with the present map, Defendant's Exhibit 355.

Q. Now I would like to have you step over to Exhibit 107 again. I would like to ask you whether you can identify Little Rock River on Exhibit 107 with any stream that appears on the Houghton sketch that you have just referred to?

A. There is a small stream coming into the west side of the Montreal River as shown in the Houghton Sketch in Wisconsin Exhibit No. 7, labeled "Rock Creek"; on Wisconsin Exhibit "107" there is a similar stream coming into the west side of the Montreal River labeled "Little Rock River", which is evidently the same stream. This Little Rock Rock River flows through Lot #140.

Q. I call your attention to the fact that the "Little Rock River" also crosses the trail, does it not in the Wisconsin Exhibit 107?

A. It is shown across the trail in Wisconsin Exhibit 107.

[fol. 606] Answer continuing: Also in Wisconsin Exhibit No. 7.

Q. I call your attention to certain shadings to the word "Granite" in Exhibit 7. What do you know as to whether there are abundant outcroppings of granite in that vicinity?

A. There are abundant outcroppings of granite in the region near Rock Creek as shown in Wisconsin Exhibit 355.

Q. Were you also at the confluence of Lehman's Creek and Pine River or Pine Creek?

A. I was.

Q. In the summer of 1924?

A. Yes.

Q. At the time when there were certain photographs taken at that point?

A. Yes sir.

Q. By Mr. Diemer?

A. Yes.

Q. And was that the same day on which the photographs were taken at the confluence of the West Branch of the Montreal River and the Montreal River?

A. Yes.

Q. And that day you have given us as what date?

A. I think it was July 27, 1924.

Q. Now I will ask you to refer to Defendant's Exhibit 125, 126, 126-a, and 127 & 127-a and ask you to indicate the location which those pictures show with reference to the confluence of the two rivers Pine and Lehman's Creek?

[fol. 607] A. Exhibit 125 was taken by Mr. Diemer at the point directed by me looking up stream in Pine River, from a point just about at the junction.

Q. And the gentleman standing in the stream, is the gentleman from Boston?

A. The gentleman standing in the stream there is Mr. Aldrich.

Mr. Sawyer: That is 125?

A. Yes.

Mr. Rieser: That is looking up Pine River?

A. That is looking up Pine River.

Q. Looking up Pine River?

A. Yes. Wisconsin Exhibit 126 is taken from a point somewhat further west, perhaps 150 feet further west, looking Northwest across a lagoon there up Lehman's Creek. This shows Mr. Aldrich also standing on the left bank of Lehman's Creek.

Defendant's Exhibit 127 was taken from a point intermediate between Point 125 and 126 looking down stream at the main Montreal River below the junction of the Pine and Lehman's Creek.

Q. And the figure on the right hand shore is standing along the shore of what river?

A. He is standing on the shore of the Montreal River.

Defendant's Exhibit 127-a was taken from approximately the same point, or almost exactly the same point as Defendant's Exhibit 126, and is looking down to the right of Exhibit 126, showing Lehman's Creek in the foreground and the Montreal River in the left middle [fol. 608] distance. At the right edge of the photograph obscured by the marsh grass is where Pine Creek joins Lehman's Creek.

Q. In the vicinity of the junction of those two streams was there any appreciable current?

A. No, we had to look very carefully, and as a matter of fact, I threw a chip in the water or a straw to see which way the flow was. It was almost stagnant.

Q. And does the backwater from the dam at Hurley back up that far?

A. No.

Q. Has there been much development in the vicinity of the confluence?

A. None whatever. Logging operations have been carried on in there on the Wisconsin side.

Mr. Sawyer: Do you know whether they ever drove that river?

A. I don't know from personal knowledge, but from the fact that they cut logs down there, I presumed they had.

Mr. Rieser: Did you go up either one of the streams, Lehman's Creek or Pine River, to any extent?

A. We struck Pine River at perhaps a quarter of a mile or a little less up stream from this junction and came down through the marsh along the edge of the marsh to the junction. Then when we left, we went along Lehman's Creek for a short distance, and then cut across country again, striking Lehman's Creek right across the rail- [fol. 609] road track and in coming in we started along Lehman's Creek right across the highway so we had followed it for considerable distance?

Q. And what is the condition of both of these streams up stream from the confluence?

A. They are very sluggish streams with a marshy valley filled with alders or an occasional open meadow of marsh grass, such as shown in photographs Exhibit 127-a and others.

Q. Do these alders overhang the stream there?

A. In much of the distance, the alders interlace over the stream from both banks.

Q. Would it be possible to take a canoe up either one of those streams?

A. It would be very difficult, if at all possible. I should hate to take a canoe up either one of those streams.

Q. What can you say of the Montreal River from the confluence on down?

A. I only saw it approximateiy for the distance shown in 127-a; there it was a wide open stream. I have seen it further down from the railroad track, and there of course it has been cut over and is a larger stream than either of the tributaries above, and would be a stream which could be gotten through readily with a canoe wherever I have seen it.

Q. What can you say as to the relative size of the two streams [fol. 610] forming the Montreal at that confluence?

A. They are approximately the same size; meaning by that what I would estimate as to the amount of water carried by the two streams. In the immediate vicinity of the junction, the Pine, as shown in Defendant's Exhibit 125, is somewhat more narrow than immediately up stream, and Lehman's Creek as indicated in 127-a about above this little lagoon, Lehman's creek is more narrow and about the size of the Pine Creek and this narrowing up and going out of the lagoon is shown in Exhibit 126.

Q. And what is the nature of the country and the banks of both streams for some distance up both streams?

A. At the confluence and for some distance up both streams, an eighth to a quarter of a mile, which was the distance where we saw it, it is an open marshy meadow.

Q. And very much higher than the level of the water?

A. Not very much, perhaps a couple of feet or three feet, subject to overflow in times of extremely high water.

Q. Are you familiar with the methods used for locating various points in wild open country,—especially in the earlier days Mr. Hotchkiss, as to how it was ordinarily done?

A. Yes.

Q. Call your attention to the reference made in Mr. Houghton's notes of astronomical observations in the vicinity of the junction of [fol. 611] the Pine and the Balsam, and what would you say from your experience and your knowledge of that country, the purpose of such observations would have been?

A. Well, it was obviously a very unusual purpose,—that is, in such circumstances in wild unknown territory, the usual thing is to simply sketch by guess and estimate, and the occasional tracing

of the little more accurate work is wanted, and chiefly however, as I have done myself a great deal in the same country. In Canada, it is simply very rough sketch from a casual view of the country. Astronomical observations would indicate that they had very particular reasons for knowing much more accurately than usual, where the location of that particular spot was. And from the fact that Astronomical Station #2 was located there, we would account for those observations by that fact.

Q. I will ask you to refer to Wisconsin Exhibits 146-147 and 148, and ask you whether from your knowledge of the country and the reference to Long Lake on Defendant's Exhibit 355, you can identify the same lake on those exhibits?

A. Portage Lake.

Mr. Sawyer: We don't question that this is Portage Lake.

Mr. Rieser: Now you have been testifying in reference to these photographs, referring to Lehman's Creek; what can you say as to [fol. 612] whether Lehman's Creek is the same as referred to in Houghton's note as to the Balsam or the Sapin?

A. It is evidently the same stream.

Q. I believe you also stated Mr. Hotchkiss, that you were familiar with the confluence of the Paint and the Brule?

Mr. Sawyer: Objected to as incompetent, irrelevant and immaterial and has no bearing upon the issues in this case.

A. Yes.

Mr. Rieser: And which of the rivers forming that confluence is the larger stream?

Mr. Sawyer: Same objection, with the added objection that the witness has not qualified himself to state; also that it is too remote from the time and the conditions existing when the grant to the State of Michigan became effective; that it is self-serving testimony, originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial.

A. The larger stream at this junction is the Paint.

Mr. Rieser: You have spent considerable time in that country, have you not?

A. I spent two years doing geological work in that region in Florence County there and mapped the geology of this junction in detail.

[fol. 613] Q. Are you familiar with the course of the Paint river?

Mr. Sawyer: Same objection.

A. Of the geology of the maps I am; not fully the course of the Paint in detail.

Mr. Sawyer: And the further objection that the boundary defined in the Wisconsin Enabling Act is the River Brule, and they can have no discussion about the River Brule.

Mr. Rieser: I believe you stated you were also down the Menominee River in a party to examine that river in the summer of 1924?

A. I was.

Q. And in that party was Mr. Halbert of the Wisconsin Railroad Commission, was he?

A. Yes.

Q. And that the trip was made for the purpose of examining that river with reference to determining the evidences of change in channel in the vicinity of islands, is that right?

A. It was.

Q. From your examination of that river are you able to say now or testify whether or not any one can now tell with any degree of certainty, in the vicinity of those islands, where the main channel of that stream was in 1836 and up to 1845—I am referring to the Menominee river from Sturgeon Falls on south?

[fol. 614] A. In some cases one could say that the main channel at that time had, with a reasonable degree of certainty, been on one side or the other of the islands and in other cases you could not.

Q. And would that be true especially in the region below the Menominee and Marinette Power Dam?

A. You mean right in the city?

Q. No, the Grand Rapids dam?

A. Yes, that would be true below and it would also be true in some of the islands above.

Q. Would you say there would be more or less possible shifting of channels from the Grand Rapids on down than there would be above?

A. That would be difficult to answer. I would say probably that there has been more shifting below than above.

Q. And why?

A. Because of the character of the material making the bed of the stream and the banks of the stream.

Q. What is that character?

A. Up above, the material making the banks of the stream, that is above what is known as the Ox Bow of the Menominee, there is more gravel. The material which would not be so readily shifted as the material below, which is largely a fine sand—was more largely a fine sand, I should say.

[fol. 615] Cross-examination by Mr. Sawyer:

Q. Mr. Hotchkiss, have you had much experience as a canoe man and traveling rivers by boat?

A. I spent two summers in Canada in which I was doing that largely in exploration work.

Q. Is it not a fact that where a river has abandoned its old channel and taken a new channel that evidences of the existence of the old channel will remain for a great many years?

A. Oh yes, in many cases at least.

Q. And is it not a fact that the widening of the channel by

erosion during a period of years, can be determined by balancing up the general form of the stream or an average cross section of the stream?

A. I don't know that I get the meaning of that.

Q. Merely this: If at a given point the stream has widened its bend, that fact would be shown by the difference in the cross section of that area of the bed of the stream and the average cross section of the stream in that vicinity, would it not?

A. That would be indicated yes, in many cases at least.

Q. In the course of most rivers, there are certain points along the river, where the river passes through hard materials, and at which points the course of the river is definite and certain and permanent?

A. Yes.

[fol. 616] Q. That's true of the Menominee down as far as White Rapids at least, some six miles below the Ox Bow. I mean those points occur at frequent intervals on the Menominee down as far as Ox Bow?

A. Well now, if I understand your question, it related to the whole course of the river above?

Q. No, I say those points were at frequent intervals on the Menominee above White Rapids?

A. Yes, there are points at frequent intervals where the river flows over a rocky bed which has not been changed.

Q. So above that point, there would be little difficulty in determining at least at frequent intervals where the main channel of the river is and always has been?

A. Well, those intervals are not so very frequent. There are one, two, three—only three places that I recall, where there are falls over rock, which would be definitely determined in that whole distance of perhaps nearly twenty miles between Sturgeon Falls and White Rapids.

Q. In your coming down that river, did you not, however, determine that there were many, numerous places than they have marked on the map, where the character of the bottom was bed rock and cannot have been changed materially?

A. There are several places along there, where there is definite evidence that the channel has not changed materially.

[fol. 617] Q. Now speaking of the area below White Rapids, almost immediately below, do you recollect your passage there through what is known as the sixty island group of islands?

A. Yes.

Q. I ask you whether or not in that particular connection there is not a definite channel, which by comparison with the other channels around the islands, shows conclusively it was at all times the main channel of the river?

A. No, I would not want to say that; between some islands that would be true and between others, that would not be true.

Q. Have you examined the copy of the original survey of that section?

A. Yes.

Q. And have you compared it to the map made by the Michigan engineers?

A. I have never seen the map made by the Michigan engineers.

Q. And speaking of the district below the Grand Rapids Power Dam, directing your attention to the Islands known as "Twin Islands," I will ask you whether or not it was not perfectly apparent that at no time did the main body of the Menominee River pass between that Island and the Michigan shore?

[fol. 618] A. I did not see the channel to the east of the Twin Islands, excepting at the upper end of the islands and the lower end, and as I recall it, the upper end had been blocked off to prevent logs going through and was silted up. While my impression is that the main channel had always been to the west of those islands, I did not see enough on the east side to say that positively.

Q. That fact however could be determined by a man making an examination?

A. I don't know whether it could or not. If the channel to the east were approximately the same width as the west, I don't believe he could tell whether the main channel went there or didn't.

Q. But assuming that the channel to the east was less than a fourth of the channel to the west, you would say that it would be apparent that the main channel was never to the east of those islands?

A. If that's the case, I would say yes.

Q. And that would also be true of Long Island—the same condition there?

A. I don't recall. I would have to refer to my notes of the survey of the Long Island to testify to that, Mr. Sawyer.

Q. Do you remember the island known as Baker's Island above the village of Koss, an island on which there was a small log cabin in the Menominee?

[fol. 619] A. I remember such an island in there, yes.

Q. Is not that the island to which you refer when you say it would be impossible to say which side of that the main channel originally existed?

A. No, I didn't have that island in mind.

Q. Did you have any particular island in mind?

A. Yes, I had Grand Island and I had Miscauno Island in mind particularly and others.

Q. In relation to Miscauno Island, I ask you whether or not you observed the channel between Miscauno Island and the Wisconsin shore was of sufficient area to have at one time carried the entire body of the stream at any one time?

A. It has a wide channel, yes.

Q. And the channel between Miscauno Island and the other islands to the Michigan side is shown by the general course to have been a cutoff made during a high period, does it not?

A. That's the indication, yes.

Q. Mr. Hotchkiss, speaking of the astronomical station fixed on Mr. Houghton's report of 1841, have you seen the figures on the

astronomical station, so as to know whether or not he arrived at a correct equation?

A. I dont' remember whether the figures were given in that or not. I didn't attempt to check it.

[fol. 620] Q. Does that report indicate whether the astronomical observations were taken by Mr. Houghton or Mr. Cram?

A. I don't recollect.

Q. Are the astronomical observations taken at that time available in any form now—could you get at the figures?

A. I don't know. I have never looked them up. I have never attempted to find out what they determined there.

Q. In going into an unknown country with unknown geographical characteristics, in attempting to meet another party in the interior of that country, the other party having gone in from a different direction, would it not be the only method of fixing a meeting point?

A. No, not at all. It would be a method almost never used.

Q. What method would they use?

A. They would use the method of topography.

Q. Your method of topography would depend on having a base line to start on?

A. It would depend on the general knowledge of the topography, and the agreement to meet in a general area, along some stream, which could be described approximately.

Q. If there were no topography of the territory—of the meeting [fol. 621] point known, what would be the method of fixing a meeting?

A. In rough exploration work, there would really be a meeting only by accident.

Q. Assuming that two known astronomical points were, one at the mouth of the Montreal River and the second some point by Lac Vieux Desert, shown and known to exist, and a party is sent to Lac Vieux Desert with directions to run a line westerly by a certain number of degrees north, and another party going to the known astronomical station at the mouth of the Montreal River, intending to meet or intercept this other party, would find the point at which the other party would cross, going up that stream by means of astronomical observation, would they not?

A. No, in general they could not, because they would not know, in the absence of previous surveys, they wouldn't know the distance.

Q. I say they could find themselves upon the line?

A. No, they could not find themselves upon the line. They would have to know that. To illustrate what I mean: If you take out here a known line through Lac Vieux Desert, and going a certain number of degrees north of west, running that line, unless you knew the length of that line, you could not determine the astronomical position of any point in any line, because it would vary in latitude and longitude, as they went farther or greater distance.

[fol. 622] Q. Could an engineer starting from a known astronomical station at the mouth of the Montreal River, traveling up that stream, with the knowledge that a party were starting from a known astronomical point in Lac Vieux Desert, on a known course, deter-

mine when in his travels on the Montreal River, he would cross the course which they both would have to cross?

A. He could do that, yes.

Q. And with the topographical and geographical characteristics being unknown, would that not be the only method in which they could so meet?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and assuming something not in evidence in this case.

A. That would be the only method in the absence of any definite survey to go by. That is, as I understand your question. That relates to a definite point where that line would cross. That would be the only method, yes.

Q. Referring to Plaintiff's Exhibit "170," the second report of Captain Cram, to page 2, where he gives the latitude and longitude at the head of the Montreal River, and you have compared that with the present maps, will you state whether there was any error in that map, and if so, what? Compare your present maps and say if there are any errors in that?

[fol. 623] A. According to Defendant's Exhibit 199 made by the United States Geological Survey, location of the headwaters of the Montreal River, are approximately sixteen miles further east and approximately a mile south of the point determined by Captain Cram.

Q. And if the point determined by Captain Cram were to be placed on the map, it would be at or very near Island Lake, would it not?

A. No it would not. It would be quite a number of miles from Island Lake; that is, if I understand your question. If Captain Cram had determined the true latitude and longitude of the point and that were platted on the present maps.

Q. My point—can you fix on the present map, Defendant's Exhibit 355, the point defined by Captain Cram as his monument of the headwaters of the Montreal River?

A. Assuming his latitude and longitude to be correct and platting that latitude and longitude on Defendant's Exhibit 355, that point would be in Town 45, North of Range one west, probably in the vicinity of the west quarter post of section 25. It would be about eight miles northwest of Island Lake.

Mr. Rieser: The astronomical point is about how far northeast?

A. It is about the same distance northeast of Island Lake—that is the headquarters of the Montreal as shown on Defendant's Exhibit 355, is about the same distance northeast of Island Lake.

[fol. 624] Mr. Sawyer: Showing you a picture on Ex. 127-a I ask you whether or not the mud banks in the foreground, covered rather sparsely by grass are not evidently deposits from the stream?

A. They are.

Q. Referring to your testimony in regard to such deposits at the confluence of the East and West Branches of the Montreal River,

what would the position of these banks indicate as to the relative strength of the Pine and Balsam?

A. It would indicate nothing here, because the confluence is perhaps 100 or 150 feet to the right of the mud banks in the picture.

Q. However, these mud banks are in the direct path of Lehman's Creek as it comes down to the confluence are they not?

A. No, they are not. They are on the inner side of the bend in the stream there, where the stream would not cut, but would deposit slightly, and the soil deposit shown there is probably a very recent thing.

Q. Is that not evident from the photographs that in the spring freshets both banks are overflowed?

A. I would not say that is indicated very strong. The growth of grass would indicate it is only occasionally covered, but that whole marsh there is undoubtedly covered by water at times.

[fol. 625] Q. Referring now to Exhibit 126 in comparison with Exhibit 127-a, I ask you whether or not that is not practically the same scene taken from the opposite direction?

A. No, it is not. These two exhibits 126 and 127-a would almost make a panorama, in which the grassy point shown at the right side of Exhibit 126 and at the left side of 127-a, make a point by which the stream flows coming toward the camera in Exhibit 126 and going away from the camera in Exhibit 127.

Q. And in making that panorama, you hold 127-a to the right of 126?

A. You hold 127-a to the right of 126.

Q. And the defined boundary of the stream makes no such curve as you mention?

A. I don't know what you meant by a defined boundary of the stream?

Q. The timber line?

A. No, the timber line does not make any such bend there. As a matter of fact, this whole area where the marsh grass grows is a *pete* bog, where presumably in flood time large chunks of *pete* bog were taken out and washed away and deposited at perhaps the next bend of the stream.

Q. The picture at Exhibit 126, is that a picture of Lehman's Creek as it comes to the confluence or is it a picture of the lagoon into which it flows at the creek?

[fol. 626] A. The foreground in Exhibit 126 is the lagoon. It lies above the confluence, and the background,—the stream showing the figure is really about the normal size of Lehman's Creek through that general area.

Q. Does the creek enter there from behind the figure?

A. From behind the figure into the left side of the photograph.

Q All of these photographs in regard to the confluence of the East and West Branch and the confluence of the Pine and Balsam are taken at a date different from the date when the two different levels on Exhibits 120 and 120-a were made, are they not?

A. Yes.

Q. So that the comparison of these pictures with the map 120 and 120-a would not show similar details in many respects?

A. There would be very few details which would not be exactly the same.

Q. And as a matter of fact the gravel bar which you show on Exhibits 120 and 120-a on the photograph shows some water flowing through there?

A. It shows a pool of stagnant water.

Q Calling your attention to Exhibit 122-a, Picture "D," I ask you whether there is not water flowing in the middle of that picture?

A. No, that's a stagnant pool over the back of the bar there, over which that would have to flow to get to the main stream.

[fol. 627] Q. Are you sure that wasn't flowing?

A. That's just a little wind riffle.

Q. And referring to Defendant's Exhibit 122, Picture G, the channel there showing water flowing in, is flowing into that channel, is it not?

A. No, it is flowing down the main channel. It is shown on Defendant's Exhibit 120-a down the channel, which shows a depth 3'-2' within the area shown on the photograph.

Q. And fixing those channels further, what channel is shown on this picture?

A. The channel southwest of the Big Island is not shown in any photograph we have here.

Q. But would not that channel continue beyond that way?

A. Yes.

Q. When you say that at all times that you saw this confluence that this gravel was there, that was only on one occasion?

A. I only saw that confluence on one occasion and the channel to the west of Big Island was bare gravel with a few stagnant pools of water in it.

Q. Did you at that time take any levels to determine the difference between the bottom of the main channel and this dry channel?

A. I did not, if by that you mean instrumental levels. I observed the water shore which gives the level.

[fol. 628] Q. Referring to Defendant's Exhibit "7" and Plaintiff's Exhibit "112," I ask you whether or not the similarity in Exhibit "7" does not indicate that the sketching of the stream on Defendant's Exhibit "7" was taken from information furnished in Plaintiff's Exhibit 112? I might add to that—are not the errors in regard to Hemlock Creek and Middle River the same on both exhibits?

A. Your first question was that "7" was drawn from "112"?

Q. Yes?

A. I would say not. In regard to the errors in relation to Hemlock Creek and Middle River, there is a similarity between the two exhibits. In both exhibits, there is a fork in the stream. In Plff's Exhibit 112 Hemlock Creek is shown as a branch. In Defendant's Exhibit "7," the only stream named is Hemlock Creek as though it were a main stream, which is marked Hemlock Creek

on Deft's Exhibit "7,"—the West Branch in both cases being marked by the name Hemlock Creek.

Q. I call your attention to both of these maps in this connection and as compared to Defendant's Exhibit "355," as to whether or not the proportions of the lower and upper section of the Montreal River are the same as on the present map?

A. No, the proportions are not the same.

Q. The upper proportions of the river being stunted in comparison with the lower portions?

A. If you were to compare the map with the river on Plaintiff's Exhibit 112 with the precsnt map, the distance from the mouth of [fol. 629] the river to the falls on Exhibit 7 is much larger in proportion to the distance from the falls to the junction of the Pine and Lehman's Creek.

Q. Speaking of Defendant's Exhibit 7, I call your attention there to the course given to the stream, one branch of which is labeled Hemlock Creek, the other not being labeled, and the fact that it does not cut through the second range of trap or conglomerate, or whatever you call it, I ask you whether or not that representation or delineation of the course of that stream would compare with the course of the West Branch as you know it to exist?

A. The upper course of the Hemlock Creek does not correspond to the portion of the West Branch as we now know it. The mouth of the Hemlock Creek on Exhibit 7 is the only portion that does correspond to the present West Branch of the Montreal River, as we now know it.

Q. Is it not a fact, that viewing this sketch in Defendant's Exhibit "7" in the light of present knowledge, that it is apparent that it was made from knowledge only of the country along or near the Portage trail?

A. No, it is not. It is apparent that the sketch is made from definite knowledge along the river and that the trail was put in in very rough and approximate fashion.

Q. You think it was made by a person going up the river?

[fol. 630] A. This sketch that you are referring to in Defendant's Exhibit "7" which is in the notes for July 27, 1941, was evidently made by a person going up the river.

Q. Speaking in reference to Plaintiff's Exhibit 112, is that also true, was this plat apparently made by a person going up the trail?

A. I would be unable to say as to that because this map is evidently information which is fairly good compared to the main Montreal River in detail, and is also fairly good with regard to the trail, and there are surveys in there which might have given them information on both of those things.

Q. So far as they go?

A. So far as they go.

Q. But it is apparent that the draftsman in "112" had more knowledge than the draftsman in Exhibit 7?

A. That is apparent, I should say.

Q. Calling your attention to Defendant's Exhibit "7," the Journal under date of July 25, 1841, reading "Embarked at five and a half

o'clock and proceeded up the river past the mouths of several small streams (creeks) coming into the river from the west—among them Hemlock Creek is 45 to 50 feet wide at its mouth." Does that refer to what you have identified on the sketches—river or creek being now what is known as the "West Branch"?

A. It evidently does.

[fol. 631] Q. What is the measurement given there as to the mouth of it compared with the measurements given on your sketch of the mouth of the river?

A. Fairly closely, yes.

Q. Isn't it a fact that at the mouth you give it not to exceed 25 feet here and 20 feet there and twelve feet here (Indicating on map)?

A. That is not what I should call the mouth of that river. The mouth would be down here at the junction just east of the word "of" in the words "West Branch of Montreal," running up the stream on the left side of the map.

Q. Up the stream—is it not definite from his journal, that the stream at that time was at a much higher stage than it was at the time this map was made?

A. I don't know.

Q. (Reading from above that point on the sketch): "The Montreal is almost a continuous series of rapids from the portage to my place of encampment and the water is at full flood and dark colored." From that do you not conclude that at the time he went up there the confluence of the stream looked entirely differently from what it does on this sketch?

A. I don't believe it looked very much different; there was more water probably from his statement, but there could be three feet more water in depth and still not change the appearance at the mouth of the West Branch east of the word "of" which I referred to.

[fol. 632] Q. Is there anything in this journal to indicate whether Mr. Houghton came up the channel to the west of the large island or to the east?

A. I don't know.

Q. Is the island in the mouth of the West Branch such an island as largely covered with timber?

A. Which island do you refer to?

Q. The island on this bar marked "Bare Gravel"?

A. No, that island has no timber on it.

Q. Is it not true if that island were submerged, the mouth would be 45 or 50 feet across?

A. It would be much wider than that. It would be nearly 100 feet possibly.

Q. At the upper end here?

A. The point you are speaking of is 250 feet up from the point I described as the mouth of the West Branch.

Q. Supposing Houghton came up the channel to the West of the big island and there saw the entrance to the West Branch, would not the mouth of the river look to be 45 to 50 feet?

A. I would think it would be wider than that.

Q. At this point here?

A. And if you went up the branch it would vary of course.

Q. At the point where the river narrows above that bar, it is on your sketch shown to be 50 feet?

A. The point up stream from the island, the next largest island shown on this map, Defendant's Exhibit 120a", the river is 50 feet wide just to the south up stream.

[fol. 633] Mr. Rieser: At flood stage?

A. At low water stage as of Sept. 16, 1924. At high water stage at the same point, the width would be about 65 feet as shown on this map, defenadnt's exhibit 355.

Q. Mr. Sawyer: And that's a point immediately south of the island, as you call it, which is a gravel bar which would be submerged by the raise of a few feet in the water?

A. Yes.

Q. Now Mr. Hotchkiss, going back to the known fact that Mr. Cram established an astronomical station on the Montreal, which he determined was the head of the river, and that that point was fixed by a line survey by Lieut. Webster from Lac Vieux Desert on a pre-determined course, isn't the fact that this boundary was in effect determined upon by the engineers before going into the field, and that they merely laid it down after going there?

Mr. Rieser: Objected to as assuming something not in evidence, and assuming the existence of facts not in evidence or in the record, and facts which are contrary to the actual fact, and incompetent, irrelevant and immaterial.

A. Granting the statements as in the question, it would not be at all a necessary conclusion that the boundary was pre-determined. The invariable necessity of engineers running a line, is to run what is known as a random line in a general direction which the true line they desire to locate goes—the fact as stated that Lieutenant Webster's [fol. 634] surveyed line intersected this astronomical station, would be purely an incident.

Q. Unless it was intentional?

A. It could not be intentional because they did not know the latitude of this point.

Q. Could not the astronomical station be located upon the river at such a point that they knew it would have to intersect this other line?

A. That might be possible, but they couldn't know that it would be at the forks of the river.

Q. Have you examined Captain Cram's first and second reports?

A. I have not.

Q. Are you familiar with the fact that the line run by Lieut. Webster was corrected back to a certain extent?

A. I am not familiar with that fact.

Q. Assuming that Lieut. Webster ran a line from Lac Vieux Desert on a cross development before he entered, would that not

be in the nature of a random line rather than a line fixing the boundary?

A. It would.

Q. And the only way the actual boundary line between Lac Vieux Desert and the headquarters of the Montreal could be surveyed, would be by first running a random line, and then correcting up, would it not?

A. Yes.

Q. So if there was only one line run, it was in reality a random line?

A. Yes.

[fol. 635] Q. Referring to Plaintiff's Exhibit "23", which is Cram's Second Report, to page 2, the second paragraph from the bottom, which reads: "Accordingly, the survey of this intervening district was commenced at Lac-vieux-Desert (See Map No. 1), the place where the operations stopped in the autumn of 1840, and was extended in the direction as nearly as could conveniently be ascertained, toward the head-waters of the Montreal." That would mean the running of a random line for that purpose, would it not?

A. I should take it it would be.

Q. Referring to the same exhibit, on page 3, the third paragraph, I read: "The latter of these streams (referring to the Pine River) was explored to its very head, and found to come from a small lake, and all its feeders are represented on the map (No. 1). This small lake was connected by an offset-line with the mainline of the survey; so that if Congress should deem it necessary or expedient to constitute this little lake, which I have called Pine Lake, as the head of the Montreal River, its position will be accurately known." I ask you whether or not the offset line would not be made for the purpose of determining a proper course with a line running through that lake?

A. It would.

Q. And was it not evident at that time that the surveyor thought that would be the true line rather than the random?

[fol. 636] Objected to as calling for conclusion, and a mere guess as to the intent and conclusion of the engineer, and not for a matter of opinion, and incompetent, irrelevant and immaterial.

A. No, I should not say that was a necessary conclusion from the statement you have read.

Q. Would not any engineer know that the random line run by Lieut. Webster would have to be corrected in some detail?

A. No, that would not be necessary if the random line hit the point determined upon as the headwaters of the Montreal River. If it didn't hit that, then it would be necessary to correct that line.

Q. Now calling your attention to Defendant's Exhibits 120 and 120a and to Plaintiff's Exhibit 171, I ask you whether or not the fact that this map was made in 1920 and a later map in 1924, whether or not it is not possible that both of them are accurate?

A. No, it is not.

Q. You would say then that where Island appeared on Plaintiff's

Exhibit 171, and do not appear on Defendant's Exhibit 120 and 120a that that is not caused by the washing away of those islands in the mean time?

A. That might be true with regard to some of the small islands shown on Plaintiff's Exhibit 171, but it would not be true with [fol. 637] regard to the three larger islands and from my knowledge of the situation there, I should say it was not true with regard to the smaller islands.

Q. Is it not probable that with a view to the lapse of time, that the island marked on Exhibits 120 and 120-a is the second largest island, or Upper Gravel Bar is what remains of the point shown on Exhibit 171, with the short creek or slough behind it as a cutoff?

A. No, that is not a possibility.

Q. Does that creek appear in which of Defendant's Exhibits 120 and 120-a?

A. The point about $\frac{3}{4}$" to the southeast of the word "of" in the words "west Branch of Montreal", on Defendant's Exhibits 120-120a is obviously the point which you called my attention to on Plaintiff's Exhibit 171, as being to the north of the little cut-off between the two streams labeled "Creek".

Q. I call your attention now particularly to the course of the West Branch as it comes into the confluence and to the position of the Pine River too on Plaintiff's Exhibit 171, and the Gravel Bar shown on Defendant's Exhibits 120-120a and ask you if that is not a similar point?

A. No, it is not a similar point.

Q. Is there any bend shown in the West Branch of the Montreal for the purpose of avoiding this bend shown on Exhibit 120a, such as is shown on Exhibit 171 of the plaintiff?

A. There is no bend to the north shown on Defendant's Exhibit 120-120-a in the West Branch of the Montreal River which corre- [fol. 638] sponds to the bend to the north shown in Plaintiff's Exhibit 171.

Q. I call your attention further to the fact that on Plaintiff's Exhibit 171, on the Northerly bank of the East Branch, as it enters the confluence, which is a point which does not appear on Defendant's Exhibit 120-120a and ask you whether or not that point may not have been washed away since that time by a change in that territory?

A. No, there is no evidence at all to that effect.

Q. In what way could you determine where there is now existing a channel to the river that there was not formerly an obstruction to the channel there, and the main body of the river going through another channel?

A. That could be told by the character of the banks and the vegetation, if any were present.

Q. According to Defendant's Exhibits 120-120a there were no banks left at the position where the point is shown in Plaintiff's Exhibit 171, as confining the waters of the East river from the confluence, which point is not shown on Defendant's Exhibits 120-120-a?

A. There is definite evidence that no such confluence as drawn on Plaintiff's Exhibit 171 has ever existed in recent times, as shown on Plaintiff's Exhibit. The evidence consists of the bank on the south side of the stream opposite this point, which is well wooded, with no evidence that it is an abandoned or filled up channel, which would be necessary if the stream changed its course.

[fol. 639] Q. On Exhibit 171, there is shown to be a point extending southwesterly from near the point where the panorama, #1, was taken as shown on Defendant's Exhibit 120a, which point is not shown, and which from your testimony does not exist at this time. In what manner can you tell that that point did not exist in 1920?

A. There is excellent physiographic evidence that that point did not exist in 1920, nor for a long time previous, because of the character of the banks on the south side of the channel opposite which this point is shown on Plaintiff's Exhibit 171; that bank is well wooded and is not a recent deposit as would be the case if that point had been cut away and the stream channel changed.

Q. You are talking about this bank (indicating)?

A. No, I am talking about this bank (Indicating.)

Q. Then you mean that the fact that the bank on one side of the river was not changed proves that it was not changed on the other?

A. Absolutely.

Q. Isn't it a fact, that in all streams the stage of freshet tend to continue in a direct line, except as they are deflected by a barrier?

A. That's true of all stages.

Q. Speaking of the situation that was just spoken of, the bank which you referred to as being permanent, has evidently been caused by this curve at all times?

A. In all recent years, yes.

Q. And isn't it possible that the point in here (indicating) has [fol. 640] been corroded away by reason of the deflection of the bank there, and that would increase in years as the corrosion went on?

A. No, that would not be the case, because there would be a very marked constriction of the channel at that point and Plaintiff's Exhibit 171 shows no such constriction of the channel.

Q. For these two maps to have been correct at their respective dates, would mean that the material would necessarily have been deposited on the south bank opposite this point and material corroded away from the point on the north bank, and there is positive evidence that that has not occurred?

A. Is it not true that no material would have been deposited at the point of constriction. Plaintiff's Exhibit does not show any constriction at this point there. (Indicating.)

Q. Take your ruler and show the proportion there?

A. Plaintiff's Exhibit 171 shows the narrowest point of the channel to the south of the point in question at approximately .15 of an inch, and at the point 6 of an inch up stream indicated, the stream is about .28 of an inch in width.

Q. Nearly double?

A. Nearly double, but it shows in relation to the general channels of the stream as drawn, no material restriction

Q. Referring now to Exhibit 122, Pictures A, B and C, which are taken as I understand it from Panorama point one on Exhibit 120a, headed "At this position as it now exists," calling your at-[fol. 641] tention to the stump at the right hand edge of "A" and the left hand edge of "B," I ask you whether or not that stump gives evidence of having been washed down and set up there, or whether that is an old stump where the material has been washed away from around it?

A. I couldn't say positively. My opinion at the time was that it was an old stump washed in there.

Q. You think it was washed in there and set up straight?

A. Yes.

Q. If it was at one time growing on firm banks, that territory would about be equivalent of the point referred to in Exhibit 171, would it not?

A. No, it would be up stream from the point shown on Defendant's Exhibit 171 approximately one inch, as indicated by the fact that the creek shown crossing between the East Branch and the West Branch on Defendant's Exhibit 171, connects with the East Branch at a point below where this stump was shown.

Q. Now then directing your attention to the small wooded island to the right of the stump and the channel in between, is it not possible in 1920, the East Branch, which is shown coming in here from the left hand side was confined by a barrier from this bank, which included this small island?

A. No, I would say that was not possible.

Q. For what reason?

A. For the reason that the channel back of the small island [fol. 642] shown at the east edge of Photograph B in Plaintiff's Exhibit 122, and to the left of Photograph C as back of it, a channel altogether too small to take the main stream at any time.

Q. Had such a condition been the fact, the stream would have been materially constricted behind this island?

A. It would not have been more constricted than at any other time.

Q. Which would in a way compare with the constriction shown on Map 171 as testified, at least?

A. No I don't think that would fairly represent the position of that island.

Q. Supposing this island to have been at the end of that point, would not the constriction have occurred at the position at which it is shown this occurred on Plaintiff's Exhibit 171?

A. Yes, but it would have been more marked than as shown on the exhibit.

Q. Had such a condition existed, the East Branch would have tended to break away from that point and have made such washes as are shown on the photograph?

A. If that had been the case, yes.

Q. And if that had been the case, your conclusions in regard to the

gravel bar as shown here would have been entirely changed, would they not, or at least the conclusion you arrived at would have had no basis, if that change had occurred?

A. No, that is not the case. That gravel bar would have relative relation as to whether such a point had existed and been cut off or [fol. 643] not.

Q. As I understand you, this gravel bar—referring to the bar running north from the letters "Gravel Bar"—from the most northerly point of the southern peninsula between the two branches of the Montreal River, that this gravel bar is more to the right hand of the confluence than to the left as the currents meet from the two branches?

A. I don't know as I get exactly what you mean. If you mean there is a wider extent of water to the west of this bar than to the east, that's true.

Q. Relating to the thread of the current in the East Branch and the West Branch, the highest point on the bar is more to the east than the west at the point of confluence, is it not?

A. Well, the highest point on the gravel bar is closer to the center of the channel, to the east of it than it is to the center of the channel to the north and west.

Q. And it practically entirely blocks the direct channel of the West Branch, does it not?

A. Yes.

Q. As I understood your testimony yesterday, that indicated the East Branch was a stronger stream than the West Branch?

A. Yes.

Q. And you based that upon the fact that the stronger stream would carry away its deposits and the weaker stream retain them?

A. Yes.

[fol. 644] Q. And is not the fact that the center of this bar is more in the center due to the fact that the West Branch was the stronger?

A. No, because of the fact that this bar in its general course is parallel to the channel of the main Montreal and directly across the mouth of the West Branch.

Q. As the current water is coming down the East Branch and the waters coming down the West Branch meet, they tend to crowd each other out of their line of direction, do they not?

A. Yes.

Q. Presumably the stronger current will persevere?

A. Yes.

Q. And the fact that the West Branch of the Montreal with these lower outlets, on which the waters escape in freshet time succeed in driving the waters from the East Branch from encroaching on these last mentioned outlets and force practically all the waters of the East Branch to go down this channel on the outer part of that bar, would that not indicate the current of the West Branch is stronger than the East Branch?

A. No it would not, because of the fact that the main Montreal River has to the Northwest of the junction of the two streams a

large gravel bar built up, indicating that it has forced its way to the west and is against the wooded banks along the mouth of the West Branch.

[fol. 645] Q. Would not the fact that there is new wash to the northeast of the confluence, indicate that the East Branch of the river had been forced back and required to wash out this northeast bank for the purpose of discharging?

A. No, it is just the reverse.

Q. In other words, you think this bank rather than having been washed out has been built up?

A. Yes.

Q. Then the stream coming down would strike this permanent bank and back over there and drop this rock?

A. It would not back over there, it would drop them as it started over to the west bank and the erosion there on the main stream is all new—the banks are all on the west side.

Q. Referring to Defendant's Exhibit 122, to pictures A and B, would you say that the channel shown on those pictures on both sides of the main stump were caused by deposits or erosions?

A. On both sides of the main stump?

Q. Yes?

A. The channel about the stump—the channels there are caused by erosion during low stages of material which is deposited because of the log jamb, in part by higher stages. The main left bank shown in Pictures A and B, is a depositional bank. The main bank on the right side of Picture B is an erosional bank.

[fol. 646] Q. These boulders shown in the foreground, do they arrive at this point by being carried by the stream or were they naturally left at this point by the glaciers formerly in this country and became apparent by the washing away around them?

A. Those are depositional,—that is deposited further up stream and brought down.

Q. Is that true of all of them or only as they may have rolled down? Is it not the main bed of this stream where the stones are left by the washing away of the soft material?

A. Practically all of the stones in the bed of that stream were transported by the stream at previous high stages of water.

Q. Do you know of the theory that the bed of the stream if composed of gravel is caused by the fact that the soft material is washed away and the stones left?

A. That's true, but the stones also are moved by the higher stages. There are practically no stones that you find there but what have been moved by higher stages of water to a certain extent, whether they have been moved ten feet or ten miles is a question.

Q. The fact that the bed is composed of stones merely indicates that the land from which the gravel bar was washed was composed of stones and loose material?

A. Yes.

Q. And that the loose material has been washed away and the stones washed down stream?

[fol. 647] A. All of them have been washed down stream.

Q. But these stones were in the material which were washed away?

A. Yes.

Q. And the stones left but gradually moved down stream later?

A. Yes.

Q. Now while we are referring to these photographs, I ask you as to a question of levels, whether or not any levels were taken of the direction of the photographs—or, could it be determined from Photograph "A" in relation to Photograph E, that the level was the same exactly, other than by the flow of the water?

A. Mr. Aldrich in making his map at my direction did take some levels of that sort, which would show in addition to the drop in the stream, that fact.

Q. The point I am getting at is this: would the point or direct focus of the picture "E" be on the same level as the point or direct focus of Picture "A"?

A. Yes, the camera was set up on the tripod and simply turned.

At this point a recess was taken until 1:30 P. M., March 12, 1925, 1:30 P. M. Hearing continued.

[fol. 648] Redirect examination by Mr. Rieser:

Q. Mr. Hotchkiss, referring now to Exhibit "199," which is a geological map of the United States Geological Survey and with particular reference to the Paint River Section,—can you point out the location of any part of Lac-Vieux-Desert on that map?

A. Lac-Vieux-Desert shows on the boundary line between Wisconsin and Michigan at the bend in the line shown by long dashes with two short dashes between them in Town 43 North, 38 West, Michigan and also in 39 West.

Q. From that point, can you locate the closest source of the Paint River to that point?

A. The closest headwaters of the Paint drained whatever came into the figure 3 in Town 38 West, and town 44 north of range 38 West.

Q. In 3 of 38?

A. Yes.

Q. And then that source continues in a northeasterly direction,—that stream does, does it?

A. It goes up through Elmwood and down near Basswood, down past Atkinson. Near Atkinson it becomes the main Paint.

Q. And follows down until it comes into the Brule?

A. Yes.

[fol. 649] Q. And follows down to where this Paint River opened on the course of it?

A. Yes, past Crystal Falls.

Q. At the closest point to Lac-Vieux-Desert, how far is it from Lac-Vieux-Desert?

A. It is shown on this map as approximately a mile—a little over a mile perhaps.

Q. About how far is Elmwood from Lac-Vieux-Desert?
A. In a direct line, the closest point to Lac-Vieux-Desert it is shown on this map at about nine miles.
Q. Dr. Houghton was one of the earliest geological explorers in the Upper Peninsula region?
A. So far as my knowledge goes, yes.
Q. And have you from time to time had occasion to go over his work and check it over with actual conditions in the field, and see as to the accuracy of his work?
A. Never except in connection with this case.
Q. And what have you found where you have checked it?
A. I have found that his work is of a sort that you would expect at that time of a good observer. He was not making detail maps, but was sketching what he saw in shape so that you could identify most of it now with the present topographical features.
Q. Mr. Hotchkiss, from your experience in handling canoes on your examination of the confluence of the West Branch of the Montrivers and your knowledge and experience you have obtained from real River and the Montreal River, in your judgment, which of those streams would an experienced engineer take in attempting to [fol. 650] follow or determine the main channel of the Montreal River?

Mr. Sawyer: Objected to, the witness not qualified to testify on the subject matter, and also that it is too remote from the time and the conditions existing when the grant to the state of Michigan became effective and that it is self-serving testimony, originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial.

A. He would follow up what is shown on the maps as the main Montreal River.

Mr. Rieser: Now the testimony you have given here with reference to the error in the location of the astronomical station, is it the longitude or the latitude that the error comes in?
A. Chiefly longitude.
Q. How would that be accounted for?
A. Lack of exact time of making the observation.
Q. Exact time of making the observation?
A. Yes.
Q. That's the actual time?
A. The error in the observer's time piece.

Mr. Sawyer: You testify that it would be that, or might be that?
A. It would be that normally. He might have made an instrumental error, but not likely.

Mr. Rieser: If it was an instrumental error, would you expect such a great variation to follow, where the observation had extended over several days?

[fol. 651] A. No I would not.

Q. You have been asked to make certain measurements of Plaintiff's Exhibit 171, do you understand that that map is drawn to scale at all, or is there any indication that it is drawn to scale?

A. There is no indication on the map that it is drawn to definite scale.

Q. And from your information as to the conformation and the confluence of the two rivers, are there any other indications that the map was not drawn to scale?

A. Yes, the conformation of the island and the stream courses and the widths of the stream.

Q. Referring now to Defendant's Exhibit 122, and particularly the large stump, near the right hand edge of Picture A, of that Exhibit, can you locate the log jamb referred to as being in the Montreal River with reference to that stump?

A. The log jamb is in the background to the left of that stump in Photograph A.

Q. And approaching quite closely to that stump?

A. It comes quite close to the stump; it is only a few feet behind.

Mr. Rieser: I think that's all.

[fol. 652] Recross-examination by Mr. Sawyer:

Q. Referring to Exhibit 199, your testimony in regard to the tributaries of the Paint River, I will ask you whether you are familiar with that territory?

A. I have never been in the territory of the Upper Paint.

Q. Have you ever driven along Route 12 in Michigan, from Crystal Falls ways?

A. Yes.

Q. Do you remember whether or not the Paint River crosses that road at any place?

A. I wouldn't have any definite recollection.

Q. Do you know where Cook's Run crosses that road?

A. I do not know where Cook's Run crosses that road.

Q. So your testimony that the Paint River rises within a mile of Lac-Vieux-Dersert is based entirely on the map and not on personal knowledge?

A It is based upon the map and not upon personal inspection of any kind

Q. Referring to Defendant's Exhibit 340, and calling your attention to Anvil Lake, can you tell me what river system that runs into?

A. I can't.

Q. Calling your attention to Lone Star Lake and the River to the West of it, which goes as far as the center of Township 39 North, Range 11 East, can you tell me what river system that drains into?

[fol. 653] A. The river system isn't named on this map, but it is apparently part of the Pine River Drainage system.

Q. Can you say whether or not this point farthest west in the drainage system of the Pine River as shown there is nearer or farther

from Island Lake than the point where the Brule Lake empties into the Brule River?

A. Empties into the Brule River you mean?

Q. Into the Brule River, yes?

A. I am not personally familiar with either point testifying from the Map Defendant's Exhibit 340. The headwaters of the Pine would apparently be nearer to Island Lake than the Pine, where the Brule Lake empties into the Brule River.

Q. And that would also be true speaking in relation to Pine Lake and to Cram's Monument on the East Branch of the Montreal?

A. The westernmost point on the Pine would be closer to those two points you mentioned.

Q. And would it or would it not be closer than the Beaver Bog referred to in former testimony?

A. Closer to the two points you mention?

Q. Closer to the three points mentioned?—Pine Lake, Island Lake and Cram's Monument?

A. Yes, it would be closer as shown on this map than the Beaver Bog shown in Sections 11-12-13 and 14 of Town 41 North of Range 12 East.

Q. The Pine is tributary of the Menominee, is it?

A. Yes it is.

[fol. 654] Mr. Rieser: Showing you Defendant's Exhibit 356, I will ask you whether you know where that map comes from?

A. It is a highway map, coming from the Michigan State Highway Department.

Q. And was furnished to the Wisconsin Highway Department was it?

A. Yes.

Q. Calling your attention to the road highway numbers on the various highways leading up to the state highway, are the Wisconsin Highways coming up to the Michigan Highways, also shown there, or some of them?

A. All excepting one that I know of that are on this map, are shown.

Q. And what is the fact as to whether or not Wisconsin has the same highway numbers for their highways coming up with the Michigan highways?

A. They are not so shown on this map.

Q. And so far as you know, has that situation or condition been changed?

A. Some of the Highway numbers in Wisconsin have been changed so that Highway Number 26, which crosses the boundary at State Line is now numbered the same on both sides.

Mr. Sawyer: Is that State Line or now Land of Lakes?

A. It is now Land of Lakes.

Mr. Rieser: And when you say State Line, where is State Line located with reference to the actual line?

A. I don't know whether it is on the Wisconsin or Michigan side—it is practically on the line.

[fol. 655] Q. And that town is now known as the Land of Lakes?

A. Yes.

Q. Is it in Michigan or Wisconsin?

A. I couldn't tell you where the exact location of the station is.

Mr. Rieser: We offer in evidence Defendant's Exhibit 356,—offer it to show that after this lawsuit was commenced, the authorities of Michigan are not yet decided to make any different claim as to the boundaries of Michigan than they have heretofore.

Mr. Sawyer: We have no objection to that for that purpose—the Highway Department not being the proper department to make any such claim.

Mr. Sawyer: Mr. Hotchkiss, in renumbering these highways, the same numbers as the Michigan Highways, did you have in mind a courtesy to the Michigan Highway Commission in case they would have to take them over?

A. No, that was not in mind.

Witness excused.

[fol. 656] The Defendant, to sustain the issues on its part, offered the following evidence, to-wit:

LAWRENCE MARTIN, being first duly sworn on behalf of defendant, testified as follows:

Direct examination by Mr. Rieser:

Q. You are the gentleman whom the last witness was pleased to refer to as Col. Lawrence Martin?

A. Yes sir.

Q. Mr. Martin, where do you live?

A. Washington.

Q. And what is your present occupation?

A. I am Chief of the Division of Maps in the Library of Congress.

Q. How long have you had that position?

A. Since last October.

Q. Before that, what did you do?

A. I was Geographer of the Department of State, beginning in 1920, in charge of the map collection of the Department of State, and responsible for handling the geographical calls in the business of the Department of State.

Q. And that might involve a question in any part of the world?

A. Yes, that might involve a question in any part of the world.

Q. And your principal work in that connection was reading and studying maps and analyzing maps, etc?

A. Yes sir.

Q. Advising the Department of State with reference to informa-

tion so obtained, in order for them to take various actions they might [fol. 657] want to take?

A. Yes.

Q. Prior to that, what was your work?

A. I did some work in the War Department for three years preceding that.

Q. And where was that work done?

A. Part of it with the Army in various places and part of it in Washington.

Q. And when you say with the army in various places, on which side of the water?

A. Both sides.

Q. You were then with the Army in France for the war, were you?

A. Yes sir.

Q. And with what branch of the work with the army over there?

A. I was Chief of the Geographical section of the Military Intelligence Division of the General Staff.

Q. And in that work what were your duties there?

A. Part of the time my work was similar to that in the State Department,—namely, the studying of maps and their interpretation in connection with military problems. Part of the time I was detailed to the American Commission to Negotiate Peace with work on boundary questions.

Q. And your work with the army then would be a matter of determining the information upon which the various branches of the service would function and the action they would take in connection with the various maps that were presented to you?

[fol. 658] A. I had a share in that, yes.

Q. Prior to that Mr. Martin, what was your work?

A. I was teaching geography and I was engaged in geographical investigations and the publication of books and articles relating to geographical problems. I was employed by the United States Geological Survey for example, and, in 1907, did a considerable amount of work in the Lake Superior Region. I was employed by the Wisconsin Geological Survey in subsequent years and did work that also took me in this region, and that involved the study of the boundary somewhat.

Mr. Sawyer: When was that?

A. That latter.—I did not specify the date, but it was in the years between 1908 and 1917.

Mr. Rieser: And you have written several books, have you, with reference to physical geography and allied subjects?

A. Yes.

Q. One of your books is now being used as a text book on physical geography?

A. Yes.

Q. And physical geography relating to the upper Wisconsin and Michigan sections, as well as others?

A. Including that.

Q. Calling your attention now to Wisconsin Exhibit 201, I would like to have you give me the distance from the northernmost point of Door County, mainland of Wisconsin, to the southernmost point of the southernmost island in Death's Door?

A. About a mile and a half.

[fol. 659] Q. From the northernmost point of Rock Island to the southernmost point of St. Martin's Island Shoal, what is the distance?

A. Measuring that distance on Plaintiff's Exhibit 114, the distance from Rock Island to St. Martin's Shoal is two miles and three-eighths.

Q. In reference to Exhibit 114, I have referred to a map of the entrance to Green Bay, Lake Michigan, first submitted as Exhibit 114. Will you also give us the distance from the upper end of the Door County Peninsular to the nearest point from that point on Plum Island?

A. A distance of a mile and three-eighths.

Q. Calling your attention now to Rock-a-wash, in Exhibit 115, about due east of Chambers Island, on the Frying Pan Shoal, I will ask you to give me the distance from the easterly side of that place as shown on the map to the Eagle Bluff Light shown on the main shore opposite that point?

A. That distance is about 1⅛ miles.

Q. And is that from near the edge of it or near the center of it?

A. It is almost impossible to say what is the center, it is so small an object.

Q. You have indicated that distance from the cross immediately above the "o" of rock in rock-a-wash?

A. Yes.

Q. Now give us also the distance between the limits of the 6½′ shoal shown immediately above the "h" of the word channel of Strawberry Channel, in the upper left hand corner of Exhibit 115, [fol. 660] to the point shown as 12½′ level just below the "s" of "RS" opposite that point?

A. That distance is 3/8 of a mile.

Q. Now can you give us the distance from mainland, or rather from the mainland in Menominee County, Michigan, to a point southwesterly from the Lighthouse Point on Chambers Island?

A. Measuring that distance from high water mark on the mainland of Menominee County?

Q. Yes?

A. That distance is 6⅝ miles.

Q. I ask you whether it is quite common to determine the headwaters of a river, to determine those headwaters with reference to the confluence of two smaller streams of substantially the same size?

Mr. Sawyer: Objected to—the witness has not qualified himself to answer that question.

A. That has been done in a number of cases.

Q. For instance, will you give us some of the principal illustrations of that?

Mr. Sawyer: Objected to as incompetent, irrelevant and immaterial.

A. The headwaters of the Ohio River is universally held to be at the junction of the Allegheny and Monongahela Rivers; the headwaters of the Illinois River is regularly accepted as being at the confluence of the Kankakee and Des Plaines Rivers, and the case of the Pine and Balsam Rivers in relation to the Montreal River is, of course, quite obvious.

[fol. 661] Q. And what would you say, whether there would be any additional justification as to that practice as to two rivers that are comparatively small and are passing through very swampy wet areas?

A. It seems to me that it might be important in some cases to stop at a point clearly recognized. It might be that a river in a swamp would dry up at certain times of the year; it might be that the spring flood over the swamp would conceal all manner of channels within the swamp, so that the choice of a confluence, seems to be a very natural thing in connection with determining the head of the stream.

Q. I ask you now to refer to a statement contained in plaintiff's brief on page 6, on the motion for dismissal of the proceedings in this case. On page 6 of the Plaintiff's brief in opposition to the defendant's motion to dismiss this action, the statement is made: "We find in the Library of Congress a map published by John R. Tanner in 1830, on which a continuous waterway was shown, and from which Complainant's Exhibit B, was undoubtedly copied, although, on that Tanner map, the group of lakes which on Complainant's Exhibit B, are connected and marked 'L. Vieux Desert,' on the Tanner map are marked 'Lakes of the Desert.'" Now, is there such a map in the Library of Congress?

A. No.

Q. Is there a map having some of the characteristics of that map in the Library of Congress of a later date?

[fol. 662] A. There are various maps in the Library of Congress—one is a map by H. S. Tanner dated 1830. The name was H. S. Tanner and not John R. Tanner. It might be assumed that that was the map to which reference is made.

Q. Does that spell Lac Vieux Desert as given in the statement in the brief?

A. The map says "L. Vieux Desert" and does not say "Lakes of the Desert."

Q. Is there a Tanner map which does show "Lakes of the Desert?"

A. Yes.

Q. What year is that for?

A. There is a map by Thomas R. Tanner—apparently there is no such person as John R. Tanner—dated 1839 and entitled "A New & Authentic Map of the State of Michigan and Territory of Wisconsin." That map shows several small bodies of water denomi-

nated "Lakes of the Desert." There is also a map by H. S. Tanner, entitled "U. S. of America," which shows several bodies of water denominated "Lakes of the Desert," and that map was issued in the year 1836, and apparently on the 16th of August, 1836, that being the date at which it was copyrighted.

Q. And that date, of course, was that before or after the passage of the Michigan Enabling Act?

A. After.

Q. In that connection, have you also checked over to determine the history of the so-called "Burr maps?"

A. Yes.

Q. And will you give us your findings with reference to the history of those maps?

[fol. 663] A. You allude now to maps by David H. Burr which will be applicable to this case?

Q. Yes.

A. There are a vast number of maps by David H. Burr.

Q. Yes, applicable to this case, and I would like to have you at the same time, connect up your findings with the proceedings for the establishment of the boundary of Michigan, if I make myself clear in that?

Mr. Sawyer: At this time I want to object, that the proceedings for the establishment of the boundary of Michigan are of record and that the record is the best testimony, and that the witness has not qualified himself to show any different circumstances from that which the record shows.

Mr. Rieser: The purpose of the offer of this testimony, is not to contradict any public records but to connect up a larger number of actions by Congress and other actions of which the Court takes judicial notice in order that they may appear concisely in this record.

Q. I will speak first of the "Map of the Territory of Wisconsin by David H. Burr, Draughtsman to the House of Reps.," which appears as Exhibit "A" in the Bill of Complaint. This map is dated 1836, and below the date 1836 is printed "To accompany the Hon. Z. Casey's report." That map I have concluded was not before Congress in connection with the determination of the boundary between [fol. 664] Wisconsin and Michigan, because it is clear from the report alluded to, that the map was one that was made by Mr. Burr for the Commissioner of the General Land Office and was transmitted by the Commissioner of the General Land Office to Mr. Casey of the Committee on Territories, as I recall it, on the 11th day of March, 1836. The date appears to be important because it is known from the number of records of which Mr. Sawyer speaks that the boundary, as finally determined by Congress, had been settled upon in all essential respects before March 11, 1836. I should like to state that the following dates seem to me to be particularly pertinent in this connection.

On January 21, 1836, Mr. Clayton, Chairman of the Committee on Judiciary of the United States Senate, asked and obtained leave to

bring in a bill establishing the Territorial Government of Wisconsin.

Q. That was Senate Bill #92 was it, that you just referred to?

A. That was Senate Bill #92, Twenty-fourth Congress, First Session. (I think the beginning and end of the legislation is of first importance to bring into the record.)

On April 20, 1836, the Act establishing the Territorial Government of Wisconsin was approved by the President of the United States. At the same time Congress was considering another bill, which also described the boundary between Wisconsin and Michigan; that was a bill to establish the northern boundary line of the State of [fol. 665] Ohio, and to provide for the admission of the State of Michigan into the Union upon the conditions therein expressed. That Bill was introduced into the Senate of the United States as S. 177, 24th Congress, First Session, on March 22, 1836. It was approved by the President of the United States on June 15, 1836.

Mr. Sawyer: Have you got the dates that the last Bill passed the House and Senate?

A. That Bill passed the Senate on April 2nd, and the House on June 14th—there were a great many matters——

Mr. Sawyer: Have you the record whether that was amended at any time as to the boundary during its course?

A. It was not.

Q. You are sure?

A. Yes. There are a great many things in it, but the description of the boundary appears to me to be the only pertinent matter in connection with this hearing, and accordingly, I concentrated on that, because it has a definite relationship to the Burr map of March 11, 1836. The Bill introduced by Senator Clayton on Jan. 21, described the boundary as follows: (I omit the part that is not pertinent with reference to this map.)

"Thence on the north, following the ship channel into Green Bay, to the mouth of the Menominee River; thence up the middle of the [fol. 666] main channel of said river to its source; thence in a direct line through the center of Lac Vieux desert, and down the middle of the main channel of the river Montreal to its mouth."

That bill was amended on February 1st, 1836, by the insertion of a different boundary description, of which the pertinent part is as follows: "through the middle of Lake Michigan to its northern extremity; and thence due north to the northern boundary of the United States." The same bill was amended on March 25, 1836, by striking out the entire bill after the enacting clause, and inserting the following, of which the boundary description reads as follows: "through the middle of Lake Michigan to a point in the middle of said lake, and opposite the main channel of Green Bay, and through said channel and Green Bay to the mouth of the Menominee River; thence through the middle of the main channel of said river, to that head of said river nearest to the Lake of the Desert; thence in a direct line, to the middle of said lake; thence through the middle of the main channel of the Montreal River, to its mouth."

The first point in connection with these two bills that relate to the Burr map of March 11, 1836, is the description of the lake commonly spoken of as The Lake of the Desert—the description of the lake on this map agrees with that in neither of the two bills. On the map we have the designation "Les Lac Vieux Desert."

In Mr. Clayton's original bill of Jan. 21st, we have "Lac Vieux desert," and in his amended bill of March 25th, we have in actually [fol. 667] the same relationship the words "Lake of the Desert." It is very evident that, if Mr. Clayton had had this map, he was in no way influenced by it drafting his bill, and it is obvious that he refers to "Lac Vieux Desert" as being the lake referred to as "Lake of the Desert" on March 25th, when Mr. Clayton's revised description was introduced; after that date there is no modification of the boundary in the Wisconsin Territory description; so I feel, as far as this bill is evidence, that the date when the Senate passed it, or the date when the House passed it, is not as important as the date March 25th, when it was introduced in this form.

On March 1st, 1836, the Judiciary Committee of the Senate, reported out S. 92, the Wisconsin Territorial Act, in the form in which it appears as S. 92 dated March 25, 1836.

By Mr. Rieser.

Q. You just referred to the report of the Judiciary Committee of March 1st, 1836, where is that report found?

A. That is to be found in Senate Document 211, 24th Congress, First Session.

Q. And does that report contain S. 92 as part of it?

A. No sir.

Q. But when does S. 92 appear in the proceedings?

A. S. 92 appears in the Journal of the Senate of the 24th Congress, First Session, first of all on Jan. 21st, as I have already testified, when the bill was read twice, by unanimous consent, considered as in com- [fol. 668] mittee of the whole and ordered to be referred to the Committee of the Judiciary and printed.

On February 1st, quoting from the Journal of the same Senate, at page 129, Mr. Clayton, from the Committee on the Judiciary, reported the bill establishing the Territorial Government of Wisconsin, with amendments which were read. That was referred to as the first amendment of S. 92, which did away with the boundary as it now is, and established the boundary line running north from the northern end of Lake Michigan. On March 1st, as I have already stated, the Judiciary Committee of the Senate presented its report.

On March 25th, as appears from the second form of S. 92, from which I have quoted, Mr. Clayton moved to amend the bill by striking out the entire Bill after the enacting clause and insert the Bill whose boundary description agrees with the present Act.

On March 28th, as appears at page 245 of the Senate Journal of the same Congress, the Senate proceeded to consider as a Committee of the Whole, the bill establishing the Territorial Govern-

ment of Wisconsin, and the bill, having been amended, was reported to the Senate, and the amendment concurred in.

Mr. Rieser: In other words, this is the second amendment then to the original Clayton Bill as first introduced?

A. Yes. I have here the further proceedings with respect to this [fol. 669] bill, none of which deal with boundary features; it does not appear to be necessary to introduce that into the record.

Coming back to the date of March 1st, 1836, that is the date when the Senate Committee of the Judiciary submitted this report with respect to S. 92,—this was ten days before the Burr map of March 11th, 1836, reached the hands of the United States Congress.

Mr. Sawyer: How do you fix that?

A. Because of the filing of that report which accompanied it.

Q. Have you got the date of the filing of the Casey report?

A. Yes.

Q. What date is that?

A. March 11, 1836.

Q. Where was that filed?

A. I think it was in the Committee on Territories.

Mr. Rieser: The report itself is not in evidence I think.

Q. Do you have any record of it there?

A. I have a record of the report.

Mr. Sawyer: Was it so filed that that map might be brought to the attention of many of the members of Congress?

A. The Committee on Territories had requested the Commissioner of the General Land Office to supply information with respect to the desirability of establishing another Land Office west of Lake Michigan. This map, Exhibit "A" atached to the Bill of Complaint, was [fol. 670] transmitted by the Commissioner of the Land Office to the Committee on Territories, with the specific statement that he was attaching a map which showed the territory under consideration, or some such language.

Mr. Sawyer: In that connection, would that map likely have been available to that Committee before the filing of that report?

A. I don't think so. My further information with respect to what was happening in the Committees of Congress at this time, includes the various letters of Lucius Lyon, Senator-designate from Michigan. These letters have been published in Volume 27 of Michigan Pioneer and Historical Collections."

Mr. Rieser. And extracts have been made from them and submitted as Exhibit 332, have they?

A. Yes sir.

Mr. Sawyer: You don't claim that these are the only letters during that time?

A. These appear to me to be all those that bear upon Mr. Lyon's knowledge of what was happening with respect to the boundary provisions of the Wisconsin Territorial Bill and the Michigan Statehood Bill.

In considering what Lucius Lyon wrote to his correspondent, it should be borne in mind that he was watching two situations—one with respect to the enactment of S. 177, which is the Bill to establish the Northern Boundary of State of Ohio and provide for the admission of the state of Michigan into the Union, and the other, [fol. 671] which was finally passed as S. 92, establishing the Territorial Government or Wisconsin.

Mr. Sawyer: What is there to indicate that Lucius Lyon was interested in the Wisconsin Territorial Act?

A. As I recall it Lucius Lyon, at this time, had the status not only as Senator-designate, but as territorial representative of the Territory of Michigan at this time.

Mr. Sawyer: No.

A. It seems to me that my conclusion is perfectly natural that the Wisconsin Territorial Act in its provisions did not naturally interest Mr. Lucius Lyon, but here was a territory with a boundary that was going to take something from the state he was going to represent.

Mr. Sawyer: Isn't it true that the boundaries of Wisconsin would have no effect in limiting Congress in granting whatever territory it described to the state of Michigan as a state?

A. That's true.

Q. So it would not affect the Michigan Bill. Would the boundaries of the Territory of Wisconsin encroach upon what Michigan desired?

Mr. Rieser: Except it might lay foundation for dispute.

A. He wrote to certain correspondents with respect to the passage of the Wisconsin Territorial Act when it went through. My only theory is that this correspondence is related to these two bills. [fol. 672] Mr. Sawyer: Does that refer to both of them in the correspondence?

A. Yes.

Q. And you don't know of any other interests he would have in them than as he refers to them in the correspondence?

A. No. As the letters stated—Exhibit 332—It is unnecessary for me to do more than point out the features that bear upon the use of the Burr map of March 11, 1836, by the members of Congress at this period, when they were considering these two bills.

Mr. Sawyer: Now as to these comments, I desire to introduce an objection that the letters speak for themselves and that the conclusions of this witness as to what effect they may have had in regard to a map attached to the report filed at that time, can be made equally well by the Court and are not a subject of expert testimony.

Answer continuing: As early as February 4, 1836, that is fourteen days after Mr. Clayton introduced the first form of S. 92, and more than one and a half months before S. 177 and the final form of S. 92 were introduced, Mr. Lyons wrote to Col. D. Goodwin of Detroit, that he had received his various suggestions, and said the matter had been fully discussed in Washington, and he had no doubt the Com-

mittee would be willing to give Michigan all the territory west of Lake Michigan and north and east of the Menominee River of Green Bay and the Montreal River of Lake Superior.

On Feb. 18, 1836, Mr. Lyons wrote Dr. A. Philes of Galena, Illinois, stating that the Committee would probably give Michigan a [fol. 673] strip of territory along the south shore of Lake Superior "where we can raise our own Indians in all times to come and supply ourselves now and then with a little bear meat for delicacy."

On February 21, 1836, Mr. Lyon wrote to Mr. W. L. Newberry of Chicago, stating "the bill for the organization of the Wisconsin territory will undoubtedly become a law."

Q. When was that?

A. February 21, 1836.

Answer continuing: "It will embrace all the present territory of Michigan and Green Bay and south and southwest of a line running up the Menominee River of Green Bay and through Old Desart Lake, down the Montreal river to Lake Superior, and thence northwesterly to the national boundary."

On February 21, 1836, Mr. Lyon wrote a second letter addressed to Col. Andrew Mack of Detroit, stating "I am sorry to have to inform you that the committee on the judiciary in the house of representatives will report on the boundary question in a few days against us in favor of Ohio * * * I have said to the committee, if they break up our southern boundary I for one shall go in for all the country we can get on Lake Sueprior and Michigan without producing serious inconveniences to the inhabitants that may now or hereafter reside there; and I have no doubt the committee will recommend that our western boundary be so altered as to run down Lake Michigan to the Fox Islands, thence along the [fol. 674] main ship canal into Green Bay and up the Bay to the mouth of the Menominee river, thence up said river to the head of the branch nearest Lac Vieu Dessert, thence through said lake down the Montreal river to Lake Sueprior."

On the same day Mr. Lyon wrote a third letter,—that is on February 21, 1836, addressed to Charles C. Hascall, a member of the Michigan Senate, saying: "It is now known here that the committee on the judiciary in the house of representatives have agreed to report in favor of the state of Ohio on the boundary question and in favor of our immediate admission into the union whenever the legislature of the State shall assent to the proposed change in our southern boundary. * * *

I have said to the committee who are now preparing their report, if they are determined to break up our southern boundary they ought also to change our western boundary so as to give Michigan all the country on the south shore of Lake Superior that can be attached to her without material inconvenience to the people who may eventually reside here. In accordance with his suggestion, I believe the committees of both houses will be willing to propose to the legislature to assent to an alteration of our western boundary so that it may run from the northwest corner of the state of Indiana

down Lake Michigan to the most western extremity of the most westerly of the Fox islands, thence through the middle of the main ship canal into Green Bay, thence through the bay to the mouth of the Menominee river, thence up the middle of said river to the head [fol. 675] of the fork which rises nearest to Lac Vieu Dessert, thence to the head of said lake and through the same down the Montreal river to Lake Superior."

On Feb. 22nd, Mr. Lyon wrote to Albert G. Ellis at Astor, Green Bay, Michigan, stating "the bill for the organization of the new territory (of Wisconsin) will doubtless become a law," and the letter continues with probabilities about who will be Governor, Secretary of State, etc.

On February 26th, Mr. Lyon wrote to Edward Mundy, Lieutenant Governor of Michigan, stating "I am waiting with anxiety and impatience to see the report of the committee on the judiciary of the house of representatives on our boundary question and admission into the union. The report will be made in a day or two and on the boundary will be against us" (alluding to the Ohio boundary in that latter case.)

On February 28th, Mr. Lyon wrote to Stevens T. Mason, Governor of the Territory of Michigan, stating "It is now absolutely certain that Congress will never consent to our admission into the union without a change of boundaries."

On March 2nd, Mr. Lyon wrote to James Kingsley at Ann Arbor, saying "Reports have been made against us in both houses on the boundary question, in the senate yesterday and in the house to-day. Congress will certainly decide against us."

I notice that this is all before March 11, 1836, when the Burr map was sent to Representative Casey and was transmitted by the Commissioner of the General Land Office to the Committee on Territories.

[fol. 676] On March 12th, the day after that map had probably first appeared in Congress, Mr. Lyon wrote to Z. Pitcher at Fort Monroe, Virginia, stating: "I sent you a copy of the report of the judiciary committee of the senate on our boundary question. It agrees with the report of the committee of the house."

Now my reason for reading into the record these extracts from Mr. Lyon's correspondence is because it all appears to go to show——

Mr. Sawyer: I don't believe his reason is competent evidence. We object to this witness stating his reasons for proposing certain evidence in behalf of the state of Wisconsin without the question being asked by counsel.

A. Counsel asked me what I thought that map had to do with this case.

Mr. Sawyer: I withdraw that last part—his reasons for reading these extracts of the letters of Lucius Lyon.

Mr. Sawyer: I object to the witness testifying for the reasons for his introducing these exhibits, because if offered on behalf of the defendant, his reason is to advance the cause of the defendant.

Answer continuing: After March 11th, Mr. Lyon wrote several letters, which also bear upon this question. On March 20, 1836, he wrote to John S. Barry, of Detroit, saying "The select committee of the senate"—that is the committee which was preparing S. 177—"will meet to consider our affairs tomorrow and will report a bill [fol. 677] precisely similar to the one reported by Mr. Thomas in the house of representatives with the addition of three or four sections providing for the establishment of a district court," etc.

Mr. Rieser: You have checked over to see who Mr. Thomas of the House of Representatives was?

A. Yes, Mr. Thomas was the chairman of the House Committee on the judiciary; he introduced another bill "to establish the northern boundary line of the State of Ohio, and to provide for the admission of the State of Michigan into the Union on certain conditions. It is dated March 2, 1836, and I was about to testify as to that in connection with another map.

On March 21, 1836, Mr. Lyon wrote to A. E. Wing, saying "Our Michigan matters will now soon be acted on in both houses. Tomorrow the two select committees of the senate on the admission of Michigan and Arkansas, the judiciary committee of the senate and the judiciary and territorial committees of the house are all to meet together in one room to agree on what Congress shall report to us. A report will be made by the senate committee immediately thereafter and the matter taken up and disposed of at an early day."

Mr. Sawyer: Isn't the committee on territories which met there, the committee which at that time had before it the report containing this map which was filed March 11th?

A. I should like to verify that.

[fol. 678] Answer continuing: "Our northwestern boundary on the south shore of Lake Superior, will be either the Montreal or the Ontonagon river, probably the latter, as the majority of the select committee this morning were decidedly opposed to giving Michigan so much of the coast of Lake Superior, as is given by the bill reported in the house.

On March 22nd, Mr. Lyon wrote to E. D. Ellis, saying: "the select committee of the senate have today reported in favor of the admission of Michigan on the same terms as proposed in the bill reported in the house"—that is the bill reported on March 2, 1836,—"and the subject is to be taken up and acted on this day week and will be disposed of and sent to the house in three or four days afterward."

On March 28th, Mr. Lyon wrote to W. L. Newberry of Chicago, saying—"the Wisconsin territorial bill has this day been ordered to a third reading in the senate and will undoubtedly go to the house in a short time and will pass without any change in the provision relative to the location of the seat of government."

On March 29th, Mr. Lyon wrote to Mr. H. H. Comstock of Detroit, stating that "The subject of our admission has been taken up in the senate today and debated * * * to-morrow Mr. Ewing is to introduce a bill to allow the people of Michigan within certain boundaries to form a constitution and state government."

The records of the Senate show no introduction of a substitute bill.

[fol. 679] On April 3rd, Mr. Thomas wrote to Thomas C. Sheldon of Kalamazoo,—"The bill for the admission of Michigan has passed the senate and is expected to be taken up in the house and passed there in a week or two, but I think not quite so soon. The conditions of our admission are that the boundaries proposed for our state by Congress shall receive the assent of a convention of delegates elected by the people and that thereupon the President shall issue his proclamation declaring Michigan a State of the Union."

Those extracts don't mention proposed changes of boundary after March 11th, when the Burr map was sent to the Hon. Z. Casey by the Commissioner of the General Land Office.

These extracts from Government documents, none of them mentioned, and these letters of the Senator Designated from Michigan—

Mr. Sawyer: I desire that this be confined to question and answer, and at this time I desire to introduce in further objection to this question that it is not responsive.

Answer continuing: Neither of the government documents alluded to in the testimony nor the extracts from the letters of the Senator—designate from Michigan refer to the bodies of water under any name that remotely resembles "Les Lac Vieux Desert," which appears upon Exhibit "A" of the Bill of the Complaint.

[fol. 680] It is also apparent from this map that Mr. Burr, then Draftsman of the House of Representatives, was not a careful map draftsman, otherwise he would not have inserted the word "Les," meaning "the," plural, in French, before the word "Lac" meaning "lake," in the singular, in French.

Mr. Sawyer: What is the plural of the word "Lac" in French?

A. Lacs. The map also shows a lake immediately north of the word "Les" and connected with the headwaters of the Montreal River as shown upon this map. There is nothing about the lettering of this name which suggests to me that that name is intended to be applied to the lake north of the word "Les."

Mr. Rieser: Does that conclude your testimony on that?

A. You asked me about maps by Burr and this includes all on that one. There are two other maps by Burr.

Mr. Rieser: I would like to have you refer to two other maps here by Burr and ask you to make a comparison. In that connection, I will call your particular attention to Plaintiff's Exhibit No. 6, being the Burr map found in the papers of Lucius Lyon, which was held by Mr. Sherwood of Watervleit, Michigan?

A. That map, Plaintiff's Exhibit 6, appears to me to be similar to a map published in House Report No. 476 of the 24th Congress, First Session, that being the document that contains the letter of transmission from the Commissioner of the General Land Office. [fol. 681] dated March 11, 1836. It differs from the map in question in having no color at the borders of certain territories on the map.

It is also similar to the map, bearing the same title exactly, including the date with the references to Mr. Casey and David H. Burr, which was published in "A Collection of maps, Charts, Drawings, Surveys, Etc., published from time to time, by order of the two Houses of Congress." The copy of this collection which I have examined in the Library of Congress has a note saying, however, that "it contains only such " (maps) "as could be collected when this volume was bound—1843," and has a further date—"Washington, 1843." It differs from the map alluded to in the same respect of lacking color.

Mr. Sawyer: Which would indicate that the other maps were made from this?

A. The natural inference is that this was an uncolored copy out of a lot, all of the others of which were colored.

Q. That they were all the same lot and the lines were added to the others?

A. Yes.

Mr. Sawyer: Have you ever examined the other copies to see whether the dark lines were part of the printing or whether they were placed on the copy afterwards?

A. It is quite evident that they were placed on the copy afterwards.

[fol. 682] Mr. Sawyer: There is another copy of this in the Library of Congress?

A. Not without colors.

Mr. Sawyer: But there is one beside the one you refer to?

A. The one in the document and the one in the Collection are the two that I refer to, and I think there is a loose copy elsewhere in the files, but they are all colored.

Mr. Rieser: And what you say there with reference to the title "Les Lac Vieux Desert" as applied to the Montreal River?

A. It does not appear to me that that was meant to apply to the lake at the head of the Montreal River.

At this point Mr. William O. Hotchkiss was recalled for recross-examination by Mr. Sawyer.

[fol. 683] WILLIAM O. HOTCHKISS recalled.

Recross-examination by Mr. Sawyer:

Q. Mr. Hotchkiss are you familiar with the difficulties of running lines in the region of disputed boundary along the Montreal and between the head of the Montreal and the head of the Brule, with a magnetic compass?

A. I am.

Q. Will you please tell us to what extent the magnetic compass would fail under those conditions?

Mr. Rieser: Objected to for the reason it assumes something not in evidence, and that is that the magnetic compass was used.

A. The compass survey in the region between Brule Lake and the headwaters of the Montreal River, and from that point to the mouth of the Montreal River would be very much affected by the very considerable local attraction which exists in this region. The needle of the compass will vary many places as much as 10 to 20 degrees from its normal variation from true form. The only way in which this difficulty could be obviated would be by neglecting the directions shown by the compass, notably using the method known as back sight and fore sight.

Q. And that method Professor, would depend upon the accuracy of the compass direction used as a starting point?

A. That would depend upon whether they had an observation for true north astronomically or not.

[fol. 684] Mr. Rieser: By that method of backsight and foresight, it would be possible to run as accurate a line as you could run with a magnetic compass, in a territory where it was affected by the deposits?

A. Yes it would.

Q. And from the fact that in 1847 Burr was able to trace and follow the random line of Captain Cram, which had been run in 1841, would you say that some such sort of method must have been used?

Mr. Sawyer: Objected to for the reason it appears in the record in the case that Burr was unable to trace that random line.

A. If Burr were able to trace that line, he might have done it either by following blazes or by the actual following of the notes of the survey, either one. It would not indicate necessarily that any particular method of making the survey was followed.

Mr. Sawyer: Isn't it true that the variation of the magnetic compass caused by the local attractions might not be apparent to a person using that compass in that region until they had learned of it?

A. It is true that it might not be apparent, but a careful surveyor would be very apt to note it.

Q. Is it not a matter of common knowledge that Mr. Burr, who surveyed this land in 1846 or 1847 was the inventor of the solar compass, and that he used this compass in surveying this land?

A. I don't know what compass he used in surveying that land but I do know he was the inventor of the solar compass.

Witness excused.

[fol. 685] At this point, an adjournment was taken to March 13th, 1925, at 9 A. M.

March 13th, 1925, 9 A. M., hearing continued in the Hearing Room in the Capitol at Madison, Wisconsin.

Col. LAWRENCE MARTIN, being recalled as a witness on behalf of the defendant, testified as follows:

Direct examination continued by Mr. Rieser:

Q. Mr. Martin, calling your attention to Plaintiff's Exhibit "9," I will ask you whether you are familiar with the original from which that exhibit was taken?

A. Yes.

Q. And have you checked that up—the history of that up in connection with other documents that you are familiar with?

A. Yes.

Q. And what is your conclusion with reference to that? You may state first what you did and then give us your conclusion.

A. Among the maps in the Library of Congress is a loose copy of this sheet. The photostat bears the imprint "Library of Congress"; it is not identified in relation to any government document. There is also in the Division of Maps of the Library of Congress a book entitled "A Collection of Maps," &c., "published from time to time, by order of the two Houses of Congress," and bearing the date 1843. [fol. 686] A copy of this map, Plaintiff's Exhibit "9," is contained in that book, which indicates that it is a map which was published by order of either the Senate or the House of Representatives.

Mr. Sawyer: At this time do you care to identify that as the same as Exhibit "6"?

Mr. Rieser: And what can you say—what are your recollections from comparison of Exhibit "9" with Plaintiff's Exhibit "6"?

A. They are different maps.

Q. And in what way—why do you say that?

A. The titles differ entirely, being alike only in indicating that the maps were both made by David H. Burr and both made in the year 1836. The representation of the group of lakes near the present boundary between Wisconsin and Michigan is entirely different, both as to forms of the lakes and the names used. Perhaps the most significant thing is that Plaintiff's Exhibit "6" shows one lake adjacent to four other lakes, but not draining into either of them. The other lakes drain respectively into the Ontonagon, Wisconsin, Menominee and the Chippewa, and at some distance west of this isolated lake, shown on Exhibit "6," a smaller lake at the headwaters of the Montreal River.

In contrast with that, Plaintiff's Exhibit "9" shows the same lakes draining into the Ontonagon, Wisconsin, Menominee and the Chippewa and the isolated lake is shown as being at the headwaters of the [fol. 687] Montreal River while the small lake west of it is entirely omitted from this map. There are several distinctive things about the drainage, but that calls enough attention to show that it was separately drafted as of a different date.

Q. And is there any other information as to whether or not Exhibit "9" or Exhibit "6" is the prior map?

A. There is evidence that Exhibit "9" is the prior map.

Mr. Sawyer: Is that not apparent from the fact that Exhibit "6" is a more accurate delineation of the true condition, and that after the making of Exhibit "9," it was learned that the Montreal River did not rise so near the head of the Menominee, but in the lake further to the west?

A. That's true with respect to the lake.

Q. And that's the reason why Exhibit "9" would be considered to be the prior of the two maps—one reason?

A. That would be one reason. The most specific evidence that Plaintiff's Exhibit "9" is a map prepared before Plaintiff's Exhibit "6," is that a copy of this map identical as to drainage features, but without all of the names that are contained on part of this map, is contained in House Report #380, Twenty-fourth Congress, First Session, facing page 16. That House Report is dated March 2, 1836, and is the report of the Judiciary Committee of the House of Representatives, dealing with House Resolution #382—a Bill "to establish the northern boundary line of the State of Ohio, and to provide [fol. 688] for the admission of the State of Michigan into the Union, on certain conditions."

Mr. Rieser: When you say House Resolution, do you mean House of Representatives?

A. This is a prior bill in regard to Michigan Statehood. It is the one in regard to which the report of the Judiciary Committee was made March 2, 1836.

Q. And in that bill I will ask you whether or not the point in the boundary is referred to as Lake of the Desert?

A. It is.

Q. And the particular part of that description from the House of Representatives' Resolution #382, reads how?

A. "Thence in a direct line through Lake Superior to the mouth of the Montreal River; thence through the middle of the main channel of the Montreal River, to the middle of the Lake of the Desert; thence in a direct line to the nearest headwater of the Menominee River; thence through the middle of that fork of the said river first touched by said line, to the main channel of the said Menominee River, and through the middle of the same to the middle of Green Bay; thence through the middle of the main channel of Green Bay, to the middle of Lake Michigan."

Q. And when you were referring to a map attached to the report of the Judiciary Committee of the Senate, you stated that the map is identical as to this map, which exhibit were you then referring to? [fol. 689] A. Plaintiff's Exhibit "9." Now I don't want you to make me say the maps are identical. The fact is that the map in House Report #380, previously alluded to, has the exact title of Plaintiff's Exhibit "9," exact as to phraseology and as to style of lettering on the map, except that it is not stated on the map in

House Report #380, that it is drawn by David H. Burr. The identity of the two maps is shown by the identity of the printed legend and of the forms of the lakes and streams. Plaintiff's Exhibit "9" denominates a lake by the name of "Lac du Vieux Desert," said name being printed to the east of the cluster of lakes alluded to.

Q. And what is the purpose or the meaning of the "du" in that part of the title, if you know?

Mr. Sawyer: Objected to on the ground this man has not qualified as an expert on French.

Mr. Sawyer: Are you familiar with the French language in all of its common uses?

A. Yes.

Mr. Rieser: And what is the purpose or the meaning of the "du" in that part of the title, if you know?

A. It means "of the" in the French language. The name "Lac" in the designation is in the singular in the French language and therefore means "The Lake" alluding to one lake, in contrast with the use of the French article "les" on Plaintiff's Exhibit "6," which I have alluded to as the Burr Map of March 11, 1836, which means "the" in the plural, as if there were several Lakes of the Desert.

[fol. 690] Mr. Rieser: Or several Lacs Vieux Desert?

A. Several Lacs Vieux Desert.

Q. And in other words, is the "du" also plural?

A. No, it is either. For instance the original name of this lake as shown upon Franquelin's map of 1708 is "Lac des vieux deserts," which is more correct French.

Q. And would mean what?

A. The Lake of the Old Gardens.

Mr. Sawyer: And would mean what?

A. The Lake of the Old Gardens.

Q. What was the former map?

A. The Franquelin map of 1708.

Mr. Sawyer: Now then the title used on Exhibit "9" then would be what, translated to English?

A. Lake of the Old Gardens or farms or plantations,—one of such words. The word "deserts" is in the French possessive sense, thereby indicating that the name was given to the lake because of there being farms in connection therewith.

Mr. Rieser: Now then, from what are you able to determine the source of S. 177? From the testimony you have just given us in reference to the history of this legislation that you have given us, are you able to say where the boundary description found in S. 177 came from? S. 177 being the Bill which finally passed March 27th?

A. It is evident that the language of the Wisconsin-Michigan Boundary description in S. 177 is copied from the language of the boundary description in H. R. 382 dated March 2, 1836.

[fol. 691] Mr. Sawyer: That is what you read in a few minutes, ago?

A. Yes.

Mr. Rieser: Now I call your attention to the tributary of the Montreal River shown on Exhibit "9" and referring to the one farthest west on that exhibit, I ask you to compare that with the same tributary in Plaintiff's Exhibit "6." What can you say as to the relative lengths of the lines there used or the relative lengths of the tributaries?

A. The Western tributary of the Montreal river shown in Plaintiff's Exhibit "9" is about twice as long as the western tributary of the Montreal river shown in Plaintiff's Exhibit "6."

Mr. Sawyer: Comparatively speaking?

A. Comparatively speaking. The two tributaries being alike in each having two small lakes at their extreme headwaters.

Mr. Sawyer: And this particular map, Exhibit "9" is more correct than map at Exhibit "6," viewed in the light of recent knowledge, though neither one is correct?

A. Neither one is absolutely correct.

Mr. Sawyer: Is it not apparent from the two maps that there was knowledge that there was one branch of the Montreal river heading in the lake, which was longer or more southerly than any other branch?

A. Yes.

[fol. 692] Mr. Rieser: I also call your attention to Plaintiff's Exhibit "5" and in the vicinity of the mouth of Green Bay, and ask you whether or not there is any ship channel indicated there?

A. Plaintiff's Exhibit "5" is John Farmer's "Map of the Territory of Michigan and Quisconsin," dated 1830; it shows a dotted line running from the middle of Lake Michigan just south of Big Beaver Island in a southwesterly direction into Green Bay. The line is designated "Ship Channel," and enters Green Bay just north of an island designated "I. Pou."

Q. Now from your examination of the maps that are in evidence in this case, can you say by what name that island is known now?

A. The island of "Pou" is known as "Washington Island."

Mr. Sawyer: Will you add that "Petit Detroit?"

A. The words "Petit Detroit" are printed just south of that island.

Mr. Rieser: What other names was the Washington Island known by during the times involved in this suit and referred to in the various maps that are exhibits in this case?

A. "Mellens," "Millers," "Palawaton," "Kayshah," "Pottawatomie."

Mr. Sawyer: Those are the names given on different maps for Washington Island?

A. Yes. In addition to "Pau" or "Pou," which is also used for Rock Island.

[fol. 693] Mr. Sawyer: We desire to have this stricken out unless it is shown which map and the date of each map that the name is used.

Mr. Sawyer: I will withdraw that objection, it being understood

that these names are taken from various of the exhibits already in evidence and apply it to the dates shown on those exhibits.

Mr. Rieser: Yes.

Mr. Rieser: I will ask you now to refer to the map which you have produced from the files of the Wisconsin Historical Society and ask you whether that's an original, similar to the one from which Exhibit "5" was taken, or are they identical?

A. That appears to be the identical map.

Mr. Sawyer: Calling your attention to the descriptive language "along the eastern shore of Green Bay from the settlement there called Green Bay on the mouth of the Fox River to the point where the ship channel shown on that map enters Green Bay," I ask you to read that language?

A. Near Green Bay on the East coast of the Bay, a point is designated as "Pte. au Sable". A little further northeast a designation of "Sandy beach". Just north of that is an island designated as "Rocky Island", opposite the mouth of the bay designated as "Sturgeon Bay", there is the language "Natl. Ind. Vi ult" apparently. North of that and between Chambers Island and Door Peninsula, (Chambers Island being there named) appears the language "Eagle [fol. 694] Hbr." Next north appears the language "I. Race", and next to the north appear the words "Port de Mort", designating a channel running to the northeast and connected with the "Petit Detroit". Immediately north of the words "Port de Mort" appear the words "Washington Har." Washington Harbor is indicated to be on an island different from the island there called "Pou".

Mr. Rieser: And the location of Death's Door with reference to the mainland of the Door County Peninsula, as we now call it, as shown on that map, is that as we know that location now?

A. You allude to Death's Door as the passage here marked "Porte des Morts"?

Q. Yes?

A. It is not exactly the same as it is now known.

Q. In other words is it not a little southerly and westerly of the northernmost point of the mainland of the Door County Peninsula?

A. Yes.

Mr. Sawyer: Do you find any designation of points along the western shore of Green Bay from Green Bay settlement to a point opposite the entrance to Green Bay marked as a "Ship Channel" or any points on the shore?

A. The locations of Indian villages are indicated.

Q. Is there any reference to islands or harbors?

A. A small bay is designated "Lit. B. de Noquet."

[fol. 695] Q. In that connection I ask you is that Bay shown on this map in anything like the position it is now known to exist or is it entirely misplaced?

A. It is a little too far south.

Q. And it heads in the wrong direction, does it not? Little Bay de Noc runs off this way?

A. Yes.

Mr. Rieser: Green Island, however, is also located in Green Bay, is it not?

A. Yes.

Q. Now I ask you again to refer to the Montreal River Section and ask you whether or not the tributary of the Montreal River designated on Plaintiff's Exhibit "5" as the West Branch follows substantially the same course and joins the Montreal River at substantially the same point as the Westernmost tributary of the Montreal River shown in Plaintiff's Exhibit #7, and in Plaintiff's Exhibit #9?

A. The Tributary designated as "West Branch" on Farmer's Map of 1830, from which Plaintiff's Exhibit "5" is a photostatic copy of a portion, not showing this fact, is substantially identical with the unnamed stream shown on Plaintiff's Exhibit "9" and similar to the unnamed West Branch shown on Plaintiff's Exhibit 6.

Q. As the westerlymost tributary of the Montreal River on the two last named exhibits, is that right?

A. Yes.

Q. Calling your attention also to the same Farmer map, Exhibit [fol. 696] 5, are there more than one Lake of the Desert shown on that map?

A. Only one Lake of the Desert is shown and that's shown as "Lac Vieux Desert".

Q. And as being one of the headwaters of the Montreal River?

A. Yes.

Mr. Sawyer: And what is the relative position of the lake as regards the group of lakes shown on Plaintiff's Exhibit "9", as to whether or not the single lake is further west, and whether or not the Montreal is extended on this map in order to make it right in that group of lakes?

A. The lake designated "Lac Vieux Desert" on the original Farmer Map of 1830 is in substantially the same position as the lake at the extreme head of the Montreal River on Plaintiff's Exhibit "9".

Mr. Sawyer: Is it not evident from comparing the original Farmer map to Plaintiff's Exhibit "9", that the change was made in that Lac Vieux Desert was then known to consist of a group of lakes and the Montreal River being still thought to head in that lake, was lengthened for that purpose on the map?

A. I don't think you can establish that fact by comparing these two maps.

Mr. Sawyer: Is there some indication of it in comparison of the two maps?

A. I couldn't be sure of that.

[fol. 697] Mr. Rieser: With respect to the headwaters of the Menominee River as shown on the Farmer map of 1830, is Lac Vieux Desert shown on that map in substantially the same position as Lac Vieux Desert on Plaintiff's Exhibit "9."

A. Substantially.

Mr. Sawyer: With the exception of its being a single lake on one and a group on the other?

A. Yes.

Mr. Rieser: Calling your attention now to a map opposite page 33 of the brief on Defendant's motion to Dismiss in this action, I call your attention to the map there—do you know where that map comes from?

A. The map facing page 33 in Defendant's Brief on Motion to Dismiss, is a photostat copy of the same map from the Library of Congress, which appears in Plaintiff's Exhibit "9," and is identical except as to the printing of certain names, with the map attached to the report of the Judiciary Committee of the House of Representatives dated March 2, 1836, and facing page 16 in the House Report #380, Twenty-fourth Congress, First Session.

Mr. Rieser: Ask you now to refer to Wisconsin Exhibit 134-5 and ask you what those maps are?

A Wisconsin Territory by David H. Burr, and bearing the copyright dates 1839, 1841. Wisconsin Exhibit 135 is an enlarged [fol. 698] copy of the northwestern part of the same map in the vicinity of the Lake of the Desert.

Q. And what can you say with reference to the description of those lakes and the identification of those lakes as compared with the Burr maps of 1836, Plaintiff's Exhibits 5, 6 and 9?

Mr. Sawyer: As to this testimony, the plaintiff desires to introduce objections—first that it is too remote from the time and the conditions existing when the grant to the state of Michigan became effective; second, that it is self-serving testimony originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial; third—that it is not the best evidence and that other competent evidence is available, and that no foundation has been laid for the introduction of this secondary evidence; fourth that the exhibit contains ambiguity apparent on its face and is erroneous in the light of present knowledge and is inconsistent with other proof offered by defendant and of no probative value; and fifth—that the exhibit is uncertain and indefinite as to the date of its preparation and as to the time alleged to be covered in the text and as to the means of knowledge of its author.

A. Defendant's Exhibit 134-135, indicate a cluster of lakes, as is the case on the other exhibits alluded to. The cluster of lakes [fol. 699] on Defendant's Exhibit 135 are designated by the names in English "The Lakes." One of the lakes is designated by the name "Lac Vieux Desert," and that lake is the northernmost cluster and indicated as draining into the Menominee River. The difference between the drainage shown and the nomenclature used on that Burr Map of 1841 and the maps previously alluded to is as follows: Upon the Farmer map of 1830, Plaintiff's Exhibit "5," only one Lake of the Desert is shown. It is designated Lac Vieux Desert, and is shown as draining into the Montreal River. On the

Burr map of 1836, Plaintiff's Exhibit 6, five lakes are shown, designated by the name "Les Lac Vieux Desert." These lakes drain respectively into the Ontonagon River, the Menominee River, the Wisconsin River, and the Chippewa River, and the fifth lake is not shown as connected with any of these drainage systems. The map also shows a sixth lake located some distance to the northwest, at the headwaters of the Montreal River, without a name.

The same group of lakes shown on Plaintiff's Exhibit "9," as a cluster of five lakes, draining respectively into the Ontonagon, Wisconsin, Menominee and Chippewa rivers, in the same position as the five lakes shown on Plaintiff's Exhibit "6," with the exception that the isolated lake on Exhibit "6" appears on Exhibit "9" as the headwaters of the Montreal River and with the further exception that one lake in this group of five is designated by the name "Lac du Vieux Desert."

[fol. 700] Mr. Sawyer: Is it possible to tell to which lake that designation applies?

A. It would be natural, since the name is printed here east of the lakes to associate it with either the lake draining into the Ontonagon River or the lake draining into the Menominee River.

Mr. Sawyer: Is it not evident from examining Defendant's Exhibit 135, that the draftsman of that map had not seen or had ignored the facts contained in Cram's Report of the survey of 1840?

A. At the time of making the edition of the map of the copyright of 1839, he did not have the Cram's report which was not issued until 1840; at the time of copyrighting the edition of 1841 he made no change.

Q. Indicating that he had not seen that report?

A. Suggesting that he had not seen that report.

Q. Or that he had ignored it, one of the two?

A. That's what I meant.

Mr. Rieser: In view of the last question, I will ask you what your conclusion is from the examination of Wisconsin Exhibit 134 and 135 and the comparison of the group of the three maps referred to as Plaintiff's Exhibits 5, 6 and 9?

Mr. Sawyer: Object to the conclusion of the witness on that point; the error in Defendant's Exhibit 134 and 135 being patent and not being the subject of expert testimony.

[fol. 701] A. It is apparent that Mr. Burr realized that he had made a mistake in indicating that there was more than one Lake of the Dessert, and as he was preparing Exhibits 134 and 135 for sale to the United States Government, that he made it as accurate as he possibly could.

Mr. Sawyer: As a matter of fact, this map was not furnished to the Government until after Cram's report was filed, was it not?

A. House Report 550, Twenty-seventh Congress, Second Session, a report of the Committee on Ways and Means of the House of Representatives, dated April 1st, 1842, indicates that this Committee

of Congress was contemplating the purchase of copies of that map for the use of the Post Office and that the Post Office Department had purchased at least 105 copies of the same map on March 27th, 1837.

Mr. Sawyer: Of that map in '37?

A. Copies of the earlier edition of the same map.

Q. The map which was purchased by the Post Office Department is not in evidence?

A. No.

Q. Is it not likely that the fact that Burr thought there was only one Lake of the Desert instead of his former idea that there was more than one lake of the Desert, came as a result of some knowledge of the investigations of Captain Cram?

A. There is nothing about the map to indicate that he ever saw the report of Captain Cram.

[fol. 702] Q. But there is an indication that he learned that there was only one Lake of the Desert through some source?

A. Yes.

Q. And that source is not indicated?

A. No.

Mr. Rieser: Showing you now Plaintiff's Exhibit 12, ask you to also refer to Plaintiff's Exhibit 43. I will ask you to point out the similarities between those two maps?

A. Plaintiff's Exhibit "12" and Plaintiff's Exhibit 43.—Plaintiff's Exhibit 12 being Thomas R. Tanner's "Map of the State of Michigan and Territory of Wisconsin," published in 1839, shows a group of lakes designated "Lakes of the Desert."

Mr. Sawyer: As to this entire examination, we want to object that it is too remote from the time and the conditions when the grant to the State of Michigan became effective; that it is self-serving testimony originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial; that it is not the best evidence and that other competent evidence is available, and that no foundation has been laid for the introduction of this secondary evidence; that the exhibit contains ambiguity apparent on its face and is erroneous in the light of present knowledge and is inconsistent with other proof offered by defendant [fol. 703] and of no probative value; and that the exhibit is uncertain and indefinite as to the date of its preparation and as to the time alleged to be covered in the text and as to the means of knowledge of its author.

Three of these lakes are shown as draining into the Montreal River and two of these lakes as draining into the Menominee River. The line of shading which apparently indicates the boundary between the State of Michigan and the Territory of Wisconsin, passes along the south edge of the entire group of lakes designated as "Lakes of the Desert."

Plaintiff's Exhibit 43 is identical as to the forms of the lakes, the

name given to the group and the streams into which they drain, but shows no state boundary.

That Exhibit, Plaintiff's Exhibit 43, is Mitchell's Map of Wisconsin dated 1846. Although there is no line of shading along the Menominee and Montreal Rivers to indicate a State Boundary, the photostat appears to indicate that the map had been lightly colored to indicate the territory of Wisconsin as distinguished from the state of Michigan, which appears to be white; no line of demarcation is shown through the bodies of water designated "Lakes of the Desert" and the point of termination of the apparent shading is not clear.

[fol. 704] Mr. Rieser: I will also call your attention to the river shown on Plaintiff's Exhibit 43 and identified by the words "West Branch", as a tributary of the Montreal River, and ask you to compare the relative location of that stream with the westerlymost tributary of the Montreal River shown in Plaintiff's Exhibit 12.

The stream denoted West Branch of the Montreal River on Plaintiff's Exhibit 43 appears to be identical with the westernmost tributary of the Montreal river shown on Plaintiff's Exhibit 12, and not designated as named, but shown as entering the Montreal River about half an inch south of the letter "M" in the word "Montreal."

The eastern tributary of the main Montreal river, which is shown on Plaintiff's Exhibit 12, is not shown on Plaintiff's Exhibit 43. A stream designated as West Branch of Montreal River on Plaintiff's Exhibit 43, is shown on that map as having two branches, and a lake at the head of one branch, and a lake at the head of the main West Branch, while the same river on Plaintiff's Exhibit 12 is shown without branches or tributary lakes.

Mr. Rieser: Also ask you to refer to Plaintiff's Exhibit 43 and Plaintiff's Exhibit "8" and particularly to the insert map in that exhibit, and ask you to compare those two exhibits?

A. Plaintiff's Exhibit "8" is similar to Plaintiff's Exhibit 43. In indicating a group of lakes by the name "Lakes of the Desert", Exhibit "8" differs from Exhibit "43", however, in the forms of the [fol. 705] lakes and the streams into which they drain. Plaintiff's Exhibit "8" and the small insert map showing the Western part of Michigan, including the district of these lakes, is identical in delineation of lakes and streams with Plaintiff's Exhibit "6". It differs from Plaintiff's Exhibit "6" in denominating this cluster of lakes at the end "Lakes of the Desert", in contrast with the French designation "Les Lac Vieux Desert".

Plaintiff's Exhibit "8", which is a map by H. S. Tanner, copyrighted on June 25, 1836, after both of the boundary descriptions were enacted into a law, and approved by the President, was obviously not used by Congress.

Mr. Rieser: Call your attention now to Plaintiff's Exhibit "85" and to the legend on the right hand side of the map, and ask you to identify the islands and places referred to at the mouth of Green Bay and also in Green Bay?

A. Plaintiff's Exhibit "85", "The Traveler's Pocket Map of Michigan, its Canals, Roads and Distances, by H. S. Tanner", copy-

righted in '32, bears upon its eastern border a table of names and distances under the designation "Steam-Boat Routes"; under the further heading "Detroit to Fort Howard", it bears the names "Mackinaw," "Great Beaver Id."; "Id. Brule," "Chambers Id."; "Greed Id.", "Fort Howard."

Upon the map, the points indicated in the table of steamboat [fol. 706] routes are indicated by the names "Gr. Beaver I.", "I Brule", "Chambers I", "Green I.", "Fort Howard."

Q. Can you locate "I. Brule" in the Grand Traverse?

A. I locate the Grand Traverse.

Mr. Sawyer: Is the designation of the islands in that Grand Traverse sufficiently accurate so that it is possible to designate that that is the same as any island that is now known to be there?

A. It is clear that this map intends to indicate that the island—the name of "Brule" is north of the island by the name of "Pou", now known as either Rock Island or Washington Island.

Mr. Sawyer: Would you also say that the delineation of the islands in the Grand Traverse, that you cannot locate any one as being the island that you now know excepting the Pottawatomie?

A. Yes.

Mr. Rieser: Referring now to Exhibit 86, I will ask you now whether you can locate Brule Island there?

A. Plaintiff's Exhibit 86, a map of the territories of Michigan and Wisconsin by John Farmer, published in 1836, indicates the island Brule as situated to the [illegible] of the island bearing the shape of the present Washington Island, and designated by the name "Palawaton;" and further as being north of the island in Death's Door designated on this map as "Plum Island".

[fol. 707] Q. And does it mark the northerly limit of the course north of Palawaton Island, of water I will say?

A. It is on the north of the channel passing to the north of Washington Island.

Mr. Sawyer: And also to the eastward of that channel?

A. To the northeast of that channel.

Mr. Rieser: I will ask you also to refer to Exhibit 87 and ask you whether or not there the Brule Island is located in substantially the same position as in Exhibit 86?

A. In Plaintiff's Exhibit "87", the map of the surveyed part of Michigan by John Farmer, published in 1837, the Brule Island is shown with substantially the same relationships as those in the map designated as Exhibit "86" and Exhibit "85".

Mr. Sawyer: Mr. Martin, will you give us from the table on the side of Plaintiff's Exhibit "85", the distance as shown on that map from Mackinaw to the various points named in your former testimony?

A. The table of steamboat routes on Plaintiff's Exhibit "85" indicates that Great Beaver Island is 40 miles from Mackinaw; indicates that Island Brule is 35 miels from Great Beaver Island, and

that Chambers Island is 40 miles from Island Brule; that Chambers Island is 15 miles from Green Island, and Green Island is 43 miles from Fort Howard.

[fol. 708] Mr. Rieser: Referring now, once more to Plaintiff's Exhibit 5, I will ask you also to refer to Defendant's Exhibit 162, and ask you whether Exhibit 162 is an enlargement of Plaintiff's Exhibit "5"?

A. Defendant's Exhibit 162 is an enlargement of a part of Plaintiff's Exhibit "5" near the entrance from Green Bay to Michigan.

Q. And shows the Ship Channel north of Pou Island?

A. Yes.

Q. And coming from the south end of what island in the middle of Lake Michigan?

A. Great Beaver Island.

Mr. Sawyer: To show the relation on the east coast of Lake Michigan with the Islands of the Grand Traverse, I ask you at what point the course laid from the southernmost point of Grand Traverse Bay through the middle of the Fox Islands would strike in the Grand Traverse?

A. Between the island designated as "Brule" and the island designated as "Pou."

Q. Up very far to the north of the island designated as "Pou"?

A. Yes.

Q. And at the point where the ship channel is shown as entering the Grand Traverse?

A. Yes.

Mr. Rieser: I call your attention to Plaintiff's Exhibit 99, part II, and now calling your attention to Rock Island, I will ask you [fol. 709] whether or not there is any indication that there is a lighthouse on the north end of that island?

A. The Lighthouse is indicated on the Northwest cape of Rock Island.

Q. And then calling your attention to a line leading northeasterly, headed to Beaver Island Lighthouse, East and North 67 miles, calling your attention also to Wisconsin Exhibit 201, I will ask you whether or not that line would come to the south or to the north of Beaver Island?

A. To the north of Beaver Island.

Q. And in a general way would follow the direction of the dotted line now leading from Rock Island Passage Entrance Can Buoy in a general northeasterly direction to a point south of the Beaver Island Fog Signal?

A. Yes.

Q. Except that the line on Plaintiff's Exhibit "99," part II, directed toward the lighthouse, apparently, and the line of "201" directed toward the channel, is that right?

A. I don' know.

Mr. Sawyer: To these questions in regard to Exhibit 99, Part II, I desire to object, first,—that it is too remote from the time and the conditions existing when the grant to the State of Michigan became effective; second,—that it is self-serving testimony originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial. [fol. 710] That it is not the best evidence, and that other competent evidence is available, and that no foundation has been laid for the introduction of the secondary evidence; that the exhibit contains ambiguity apparent on its face and is erroneous in the light of present knowledge and is inconsistent with other proof offered by defendant and of no probative value; that the exhibit is uncertain and indefinite as to the date of its preparation and as to the time alleged to be covered in the text and as to the means of knowledge of its author.

Mr. Rieser: Now calling your attention to Wisconsin Exhibit 192, and particularly the dotted and dash line northeasterly from Rock Island, I will ask you whether from comparison with other boundary lines you can state whether or not that marks a boundary line?

Mr. Sawyer: Object to that it is too remote from the time and the conditions existing when the grant to the state of Michigan became effective; that it is self-serving testimony originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial; that it is not the best evidence and that other competent evidence is available, and that no foundation has been laid for the introduction of this secondary evidence; that the exhibit contains ambiguity on its face and is erroneous in the light of present knowledge and is inconsistent [fol. 711] with other proof offered by defendant and of no probative value; that the exhibit is uncertain and indefinite as to the date of its preparation and as to the time alleged to be covered in the text and as to the means of knowledge of its author; and also object to the question unless it gives the date which is claimed on this exhibit.

Mr. Rieser: The date is 1888.

A. Wisconsin Exhibit 192 shows by the dot and dash boundary a line extending from Green Bay into Lake Michigan between Rock Island and St. Martin's Island, the use of this line being the same as that used for boundary between Michigan and Wisconsin and the boundary between Michigan and Indiana and the boundary between Indiana and Ohio, and the boundary between Michigan and Canada on this map.

Q. I am calling your attention now to Wisconsin Exhibit 54 an excerpt from the Journal of Douglas Houghton under date of 1839 and the entry August 26th, in that journal with reference to Louse Island and St. Martin's Island, and ask you whether or not you can locate the passage referred to.

Mr. Sawyer: I desire to object that it is too remote from the time and the conditions existing when the grant to the state of Michigan

became effective; that it is self-serving testimony originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial; that it is not the best evidence and that other competent evidence is available, and that no foundation has been laid for the introduc-
[fol. 712] tion of this secondary evidence; that the exhibit contains ambiguity apparent on its face and is erroneous in the light of the present knowledge and is inconsistent with other proof offered by defendant and of no probative value; that the exhibit is uncertain and indefinite as to the date of its preparation and as to the time alleged to be covered in the text and as to the means of knowledge of its author.

A. The passage indicated in Mr. Houghton's Journal, the extract appearing at Wisconsin Exhibit "54," says the principal ship channel to Green Bay, is designated as extending between St. Martin's Island and Louse Island.

Mr. Rieser: And by what name would that passage be known today?

A. Known as the Rock Island Passage.

Q. And between what islands?

A. Between Rock Island and St. Martin's Island.

Q. I ask you now to refer to Wisconsin Exhibit 142 and explain that exhibit?

Mr. Sawyer: Same objection as before.

A. Wisconsin Exhibit 142, the "Map of that part of the Mineral Lands adjacent to Lake Superior ceded to the United States by the Treaty of 1842 with the Chippewas, shows that all of the branches of the Montreal River head in lakes, to the western of which the name "Pine-wood Lakes" is applied. The lakes designated as "Pine-wood Lakes" are shown on this map as being a considerable distance west of the head of the Wisconsin River, designated on this map
[fol. 713] as the "Lake of the Old Gardens or Lac Vieux Desert."

Mr. Sawyer: Mr. Martin is that indicated evidently erroneously that there is a supposed canoe route connecting the chains of lakes?

Mr. Rieser: Objected to as assuming contrary to the record and evidence in this case, that the canoe route is erroneous.

A. The map indicates a "chain of lakes. The portages between the lakes are indicated so that the canoe route is shown.

Mr. Sawyer: And that canoe route comes to the line indicated on the map which would compare with the Portage Trail indicated on so many of the maps heretofore referred to?

A. Yes.

Mr. Rieser: I ask you now to refer to Wisconsin Exhibit 170, and ask you to state what that is?

A. Wisconsin Exhibit 170 is a set of three photostat sheets showing a part of a map in the Library of Congress indicating boundaries of the lands ceded by Indians to the Federal Government.

Q. Of what date?

A. 1839.

Q. I call your attention to a white line leading north of Rock Island and then striking the main line of the Upper Peninsula north of Green Bay, and ask you if you know what Indian Treaty that refers to?

A. I do.

Q. Will you state what it is?

[fol. 714] A. The line shown on the first of these three sheets as extending from Lake Michigan into Green Bay immediately northeast of the island designated as "Rock Island" is also indicated on the same sheet as related to the Treaty designated with the number "42." and also that designated with the number "46."

The second sheet of this exhibit indicates that "42" was the treaty between the Ottawas and Chippewas, a treaty negotiated at Washington on March 28, 1836.

The second sheet of this map indicates, by its title, that it was made in the Bureau of Topographical Engineers of the War Department, in accordance with a resolution of the United States Senate.

The manuscript notes upon the same, indicate the sources of certain materials used; the manuscript notes being dated July 1851 and signed "J. J. A.," for J. J. Abert, Chief of the Bureau of Topographical Engineers.

I testified that Wisconsin Exhibit 170 consisted of three photostat sheets and constituted only a part of the map which is in the Library of Congress. The part of the map which is omitted carries the title and date of the original map upon which the boundaries of the lands ceded by Indian treaties were designated, and that original map is a map of the United States of America, by H. S. Tanner, published in 1839.

The white line alluded to a crossing from Lake Michigan into Green Bay just north of Rock Island is the green line on the original manuscript map in the files of the Library of Congress.

[fol. 715] The conditions under which this map was prepared indicate, by the statement in the United States Statutes at Large, Volume V, at page 328, that on March 3, 1839, the President approved an appropriation including a provision "to enable the Secretary of War to have executed under his direction twelve maps for the use of the War Department and of the Senate, showing the position of the lands of each Indian tribe in amity with the United States."

There was an appropriation for $1,000.00. The identity of this map with the one provided for in the statute of March 3, 1839, is suggested by the presence of the words on the map "Compiled * * * in compliance with a Resolution of U. S. Senate 1839," and of the words referring to "the position of the Lands occupied by Indian Tribes in amity with the United States."

It therefore appears that this map was prepared for the use of the War Department and of the United States Senate. The Treaty, referred to on page 2 of Exhibit 170, as having been negotiated at

Washington, on March 28, 1836, appears in Volume 7 of the United States Statutes at Large, at page 491. That Treaty includes the description of the boundary of the Indian lands ceded to the United States by the Ottawa and Chippewa nations of Indians, in the following language: "Thence, in a direct line to the head of the Shonawba river of Green Bay, thence down the south bank of said river to its [fol. 716] mouth, thence, in a direct line, through the ship channel into Green bay, to the outer part thereof, thence south," etc.

Q. And that treaty appears now as Defendant's Exhibit 329, does it?

A. Yes sir. The treaty was ratified by the United States Senate and proclaimed by the President on May 27, 1836. The treaty alluded to with the Ottawa and Chippewa Indians as having been signed at Washington on March 28, 1836, was signed just one day before the Senate passed the Bill establishing the Territorial Government of Wisconsin, which the Journal of the Senate shows was passed on March 29, 1836.

Mr. Sawyer: Speaking again of Exhibit 170, and referring to your testimony that the original map is a copy of the Tanner map, I ask you from the characteristics of Defendant's Exhibit 170, you can determine whether that's a copy of the Tanner map of 1839 or the Burr map of 1836?

A. The map upon which the 1836 Treaty is drawn is a map by H. S. Tanner, but not the map we have previously discussed, as it is a map of the whole United States of America.

Q. And under date of 1839?

A. Yes. The representation of the drainage along a portion of the Wisconsin-Michigan boundary near the Lake of the Desert is apparently identical with that shown upon the Burr map of March [fol. 717] 11, 1836, except that this Tanner map of 1839 designates several bodies of water as Lakes of the Desert, while the Burr map designates these bodies of water as "Les Lac Vieux Desert."

Mr. Sawyer: Speaking of the line heretofore referred to on Exhibit 170 as coming from Lake Michigan into Green Bay, I ask you what treaty controls as to line from the Westerly, and will you read the language of the treaty in regard thereto?

A. The map indicates by the number "50" what treaty was referred to. The table reads under number "50," the treaty signed at Washington under date of Feb. 8, 1831, Vol. 7, U. S. Statutes at Large, page 342, indicates that the treaty signed at Washington on February 8, 1831, was a treaty with the Menominee Indians. The boundary shown upon Exhibit 170 is described in this treaty as follows, beginning with the mouth of the Milwaukee river, "thence north, along the shore of Lake Michigan, to the mouth of Green Bay; thence up Green Bay, Fox river, and Winnebago Lake, to the place of beginning."

Mr. Rieser: And what you have just read now is the same as the extract bearing number Wisconsin Exhibit 328?

A. Yes.

At this point, a recess was taken until 1 P. M.
At 1 P. M. the hearing was continued as before.

Col. LAURENCE MARTIN on the stand, being examined by Mr. Rieser.

[fol. 718] Mr. Rieser: Mr. Martin, reference has been made to Douglas Houghton's Notes for 1841, with reference to certain astronomical observations in the vicinity of the confluence of the Pine Creek and Lehman's Creek as we now know it, or the Pine and Sapin as it was designated in the Houghton notes, what, if any importance or consequence, do you attach to those notes?

Mr. Sawyer: Objected to for the reason it is too remote from the time and the conditions existing when the grant to the State of Michigan became effective; that it is self-serving testimony originating after knowledge of the dispute arose and was designed to further the interests of the defendant in a dispute then political rather than judicial; that it is not the best evidence and that other competent evidence is available, and that no foundation has been laid for the introduction of this secondary evidence; that the exhibit contains ambiguity apparent on its face and is erroneous in the light of present knowledge and is inconsistent with other proof offered by defendant and of no protective value; that the exhibit is uncertain and indefinite as to the date of its preparation and as to the time alleged to be covered in the text and as to the means of knowledge of its author.

A. The map contained in the notes of July 27, 1841, shows that [fol. 719] Houghton had determined the latitude and longitude of the junction of the Pine and Sapin or Balsam Rivers as Latitude 46 degrees, 18′ 18″; longitude 9 degrees, 24′ 38″. The fact that as careful a man as Douglas Houghton gives latitude and longitude, apparently with great precision, as he gives "seconds," and giving odd numbers, suggests that he had done astronomical work of a considerable degree of accuracy. The notes show that following the date when he says that the junction of these two streams might be considered the head of the Montreal River, he recorded that on July 30th, July 31st, August 1st, August 2nd, and August 3rd, he was engaged in astronomical observations.

No geographer would hesitate to say that if a man spent as many days as is indicated here in the determination of the geographical position of the junction of these two streams, he must have regarded the location of that junction of great importance.

Q. I call your attention also to Plaintiff's Exhibit 23, and page 7 of that report, and ask you whether the astronomical readings given in connection with the Houghton Map just referred to are the same as the ones given by Cram on page 7 of that exhibit?

A. They are identical.

Cross-examination by Mr. Sawyer:

Q. Is it not a fact Col. Martin, that nowhere in the Houghton [fol. 720] Journal does it say that he himself made any astronomical observations, but merely says that he "remained in camp engaged in astronomical observations," and does it not appear from that Journal that both Douglas Houghton and Captain Cram were in camp at that time?

A. It does appear that they were in camp at the same time, but "engaged in" and "making" mean the same thing.

Q. The only indication that Douglas Houghton had anything to do with that was that he was engaged in astronomical observations?

A. Yes.

Q. Does it appear in the Journal as to whose watch was used, Douglas Houghton or Captain Cram or both?

A. Nothing said about that.

Q. Going back to the language of the Michigan Enabling Act, I direct your attention to the language "Thence through the middle of the main channel of the Montreal to the middle of the Lake of the Desert." From that language what would naturally be assumed as to the position of the Lake of the Desert with relation to the Montreal?

A. The natural assumption is that the Lake of the Desert is at the head of the Montreal.

Q. Following the language "From the middle of the Lake of the Desert, which is in a direct line to the nearest headwater of the Menominee River"—let me ask you first to identify the map which was attached to the report which was in the hands of the combined [fol. 721] committee which met on March 20th or 21st?

A. I can only state that this map is one of whose existence we first knew on March 11th.

Q. Is that the date on which a copy of this map was filed with the Hon. Z. Casey of the Territorial Committee?

A. Yes, it was the date on which it was transmitted by the Commissioner of the Land Office to the Committee on Territories.

Q. Directing your attention now to the further language in the Michigan Enabling Act—"through the middle of the main channel of the said river Montreal, to the middle of the Lake of the Desert; thence, in a direct line to the nearest head water of the Menominee river;" is it not possible to trace the exact language of this Act upon the Map, Plaintiff's Exhibit "6," by coming up the Montreal to the middle of the lake at its head, and going thence in a direct line to the nearest head-water of the Menominee river?

A. It is except that no Lake of the Desert is shown on this map.

Q. The only thing then that is assumed in doing that is to assume that the lake at the head of the Montreal is in this act called the Lake of the Desert?

A. Yes.

Q. Were the language of this act to read "Thence through the middle of the main channel of said Montreal, to the middle of the Lake of the Desert at its head; thence, in a direct line to the nearest

[fol. 722] head water of the Menominee River," could there be any doubt as to what was meant?

A. I think not.

Q. Such in fact is the line sketched upon this map after it was made, is it not?

A. Yes.

Q. Are you acquainted with J. B. Davis or Professor Davis, he has been referred to here?

A. No.

Q. Was there question in relation to the map of which we have been talking, which is Plaintiff's Exhibit 6,—does that map in any way indicate the boundary between Michigan and Wisconsin as passing through the Green Bay and the Islands at the entrance?

A. No sir.

Q. Is the Brule Island you have referred to anywhere identified on that map?

A. By the name of Burnt Island.

Q. Are you sure that's the same island?

A. I assume so from the identity of the name "Brule"; in the French language "Burnt" means the same thing.

Q. Referring to your testimony yesterday as to the channel through Porte des Morts, Rock Island and Strawberry Passage, were the distances given by you, the widths of the channel at right angles to the course of steamers passing through that or were they given at an angle?

[fol. 723] Q. Referring now particularly to the width of the Rock Island Passage—I ask you to take the width of that passage at right angles to the steamer course shown there?

A. You mean at right angles to this line here? (Indicating.)

Q. Yes?

A. The distance measured as designated in the question is 1⅛ miles.

Q. As to Rock Island Passage?

A. Yes.

Q. I believe that was the only one of which that was peculiarly true?

A. Yes.

Q. So that so far as a Steamer headed through the Rock Island Passage is concerned, the variation of the course must be such so as not to miss a channel 1⅛ miles wide?

A. Yes.

Q. And for the purpose of navigation, that is the width of the channel?

A. For the purpose of present steamship navigation that's true. In the day of sailing vessels and in 1836 it would be different.

Q. In your experience in reading maps, have you had occasion to notice any situations where a district surrounding some outstanding physical characteristic is generally known by the name given to that physical characteristic?

A. I am not sure I understand your question.

[fol. 724] Question repeated: In your experience in reading maps, have you had occasion to notice any situations where a district surrounding some outstanding physical characteristic is generally known by the name given to that physical characteristic?

A. If you mean that the region surrounding Pike's Peak, was spoken of as the Pike's Peak Region, I should say that was usual.

Q. I call your attention to the district on map, Plaintiff's Exhibit 6, called "Lake of the Woods." Are you familiar with the present map of that territory?

A. Only in a general way.

Q. Are you sufficiently familiar with it to know that the Lake of the Woods consists of a large group of lakes in many cases not connected?

A. I did not know that the name "Lake of the Woods" was applied to any body of water disconnected from the general body of water.

Q. Do you know the territory on this map within the confines of Lake of the Woods covers many lakes which are now detached from the main lake?

A. I am not sufficiently familiar with modern maps of that vicinity to testify on that question.

Q. Assuming that to be true, would that not be true of Lakes of the Desert?

Mr. Rieser: Objected to as assuming something not in evidence and having nothing whatever to do with the matters here in evidence.

[fol. 725] A. I should not make that assumption.

Mr. Sawyer: In connection with your readings, have you had occasion to notice the habit of referring to a district by the river traversing that district. I refer to such language "A man going into the Nipigon" when he went into the district of the Nipigon?

A. Yes.

Q. And that is quite common in regions not thoroughly mapped, is it not?

A. Yes.

Q. So that we quite commonly found a person referring to the name of the district by the name of a river or lake in that district?

A. Yes.

Q. And it is likely that the region surrounding Lac Vieux Desert was referred to as the Lake of the Desert when they did not refer to any particular lake?

A. The descriptions that I have read of early voyages in this neighborhood seemed to me to allude clearly to one lake.

Q. I am asking you if it would be possible that that might be done?

A. I never read a narrative in which they seemed to.

Q. Following this custom, would it not be possible that reference might be made in such works to the Lake of the Desert, or the Lac Vieux Desert, meaning the district surrounding that lake, and no particular point in it?

[fol. 726] Mr. Rieser: Objected to for the reason it assumes something not in the evidence and is an assumption contrary to what the evidence in this case shows.

A. That might be true but my reading about this region does not indicate that it is true.

Question repeated: Following this custom, would it not be possible that reference might be made in such works to the Lake of the Desert, or the Lac Vieux Desert, meaning the district surrounding that lake, and no particualr point in it?

A. It might; but from my reading it never was in this region.

Mr. Sawyer: I ask to have the last part of the answer stricken out as not responsive.

Q. Have you ever read any of those articles in regard to this region with a view to determining whether or not that was their meaning, or have you read with the idea that it could not be their idea?

A. I think I have read the narratives with open mind on that subject.

Q. Referring now to your testimony with regard to the hradwaters of streams as having been determined by branches such as the Ohio and others, I call your attention to the instructions in the Act to Captain Cram in his two surveys—was it required in that that he should establish the head-waters of the Montreal River?

A. The instructions are the same as the Act, except that it leaves out the words "Main channel."

[fol. 727] Q. Is there anywhere in the Michigan Enabling Act a point designated as the headwaters of the Montreal, which is the necessary point in a boundary?

A. There is nothing in the Michigan Enabling Act which mentions in terms the head of the Montreal River.

Q. Is it not a fact that the head of the Montreal is by the language of the Act fixed in the middle of the Lake of the Desert. The head of the Montreal for the purpose of the boundary is determined to be in the middle of the Lake of the Desert and that that is the point from which the boundary departs from the Montreal River System?

A. The middle of the Lake of the Desert is a terminal point here which is arrived at by going through the main channel of the river Montreal.

Q. And from that point the boundary leaves the Montreal River System as a boundary?

Mr. Rieser: Objected to as something not in evidence; not subject of proper cross examination, not having been covered by direct examination, and the boundary definition is the best evidence and speaks for itself; and for the further reason it assumes something not in the record in this case, to-wit: that the Lake of the Desert was in the Montreal River drainage area.

Q. From that point the boundary leaves the Montreal River as a part of the boundary?

A. So far as described in the Michigan Boundary Act.

[fol. 728] Q. Are you familiar Col. Martin with the rule of construction of deeds and grants, that such construction shall be given to them where possible as makes the boundary defined a possible boundary?

A. I am not familiar with that.

Q. Conceding that rule to be the law, would it be possible to identify the Lake of the Desert as referred to in that act as any other lake than that at the head of the Montreal as shewn on Plaintiff's Exhibit 6?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and based upon legal conclusions, with which the witness is not familiar, and improper cross examination.

Question withdrawn.

Q. Mr. Sawyer: Is it not possible by assuming that the Lake of the Desert referred to in this description is the lake shown upon Plaintiff's Exhibit "6", a short distance to the Northwest of the group of lakes labeled "Les Lac Vieux Desert," and directly to the north of the printing of the word "les",—is the lake referred to in the printing of the Act. With that assumption, is it not possible to definitely lay down the boundary there described on the map?

A. Exclusively on this map?

Q. Yes?

A. I should say so.

Q. And would that boundary accord with the line as shown upon this map?

[fol. 729] Q. Conceiving the line from the head of the Montreal to the lake at the head of the Menominee to be a straight line?

A. Of course the line shown on the map isn't a straight line.

Q. Conceiving that that line is a straight line, isn't that the line that would be laid down?

Mr. Rieser: Objected to for the reason that it was not intended to be a straight line by the greatest stretch of the imagination, and for that reason assumes something not in evidence and that it is incompetent, irrelevant and immaterial.

A. A straight line could be laid down under the conditions you speak of, but was not so done on this map.

Q. The line varies around the shores of one lake from being straight?

A. Around the shores of two lakes.

Q. The latter being the lake at the head of the Menominee?

A. Yes.

Q. Are you familiar with Cram's first report to the extent that you know he was relying on information that there was no lake at the head of the Montreal River but it took its rise in a swamp?

A. I don't know that.

Q. Reading from page 5 of Exhibit 15, being Senate Document 151, "It was ascertained, that Lac Vieux Desert or "Lake of the

[fol. 730] Desert" has no connection whatever with the Montreal River; that the nearest distance between said lake and this river is such, that an Indian requires eight days, without a pack, to pass from one to the other; and it is also believed, with much confidence, that the Montreal River does not head in a lake, but takes its rise in an extensive swamp". Is it not apparent from that that Captain Cram was looking for a lake at the head of the Montreal River?

A. Yes.

Q. And that his erroneous information that there was no lake at the head of the Montreal River would have something to do with his determination that Lac Vieux Desert is the Lake of the Desert as referred to in the boundary?

A. Will you please repeat that question.

Q. Reading from page 5 of Exhibit 15, being Senate Document 151, "It was ascertained that Lac Vieux Desert, or "Lake of the Desert," has no connection whatever with the Montreal River; and that the nearest distance between said lake and this river is such, that an Indian requires eight days, without a pack, to pass from one to the other; and it is also believed, with much confidence, that the Montreal river does not head in a lake, but takes its rise in an extensive swamp. "And that he was erroneously informed that there was no lake at the head of the Montreal River, would have a bearing upon his conclusion that Lac Vieux Desert, as he calls it, was the Lake of the Desert, as referred to in the boundary?

[fol. 731] A. I can't see anything in the evidence that enables us to interpret the basis of Captain Cram's conclusions.

Q. You are absolutely unable to see anything except that Lac Vieux Desert was the Lake of the Desert?

A. Well, you mean that——

Q. There is no use in getting into argument about this thing. I believe you testified Col. Martin that Plaintiff's Exhibit "6" is a copy of the map which was first known to have been in the possession of Congress when it was reported to the Committee on Territories March 11, 1836?

A. Yes.

Q. Isn't it a fact then that that map was in the possession of the Committee which finally formulated the Wisconsin Territorial Act, or which finally passed and reported out the Wisconsin Territorial Act?

A. No sir.

Q. It was in the possession of that committee at the time of the joint meeting?

A. The committee, however, that formulated the act was the Committee on the Judiciary.

Q. But they had immediately previous to reporting out that Act, met jointly with the Committee that had this Act for the purpose of passing on that bill, did they not?

A. The map in question has the following relationships:

Q. Isn't this the map which was filed with the Committee on Territories on March 11, 1836?

A. No sir.

[fol. 732] Q. Isn't this a copy of that?

A. I erred yesterday in saying that I thought that the map was submitted to Mr. Casey of the Committee on Territories. I now find that the map was transmitted on March 11, 1836, by the Commissioner of the Land Office, to Hon. Zadack Casey, of the Committee on Public Lands; so that the map was not submitted to any Committee that was represented at the meeting of the Senate Committees alluded to in Mr. Lyon's letter.

Q. Are you sure the map was not in the possession of this Committee, or do you merely now find no reference that it was?

A. I don't find that it was transferred to any of those committees.

Q. You don't find that it was?

A. No.

Q. Have you looked to see?

A. Yes.

Q. And do you know whether or not Mr. Casey was not on any of those committees?

A. I have seen the manuscript and the printed record, in the House of Representatives' collections and now being the Manuscript Division of the Library of Congress, of that part of the statute.

Q. Do you know whether Mr. Casey was not on any of those committees?

A. I do not know.

[fol. 733] Q. And do you know whether this map was transmitted to any other committee?

A. I have seen no record that it was transmitted to any other committee.

Q. Can you suggest any other method that the drainage line might have been put upon this map than in that committee,—the map a copy of the one submitted to Mr. Casey?

A. The map was transmitted on March 11, 1836; it was printed at some subsequent date. Of course it was not a printed map. It was transmitted.

Q. Do you know that?

A. We have no record of it being there on March 11th.

Q. The map that was there on March 11th might have as well been a copy of this map as to have been the original, might it not?

A. I recall nothing of the language of the Commission of the Land Office that indicates whether it was a manuscript map or a printed map.

Q. Then the only thing that you can testify is that this was the map that was sent to Casey on March 11th, and you have no record or evidence to show that the map was not in the possession of the other committees?

A. No.

Q. And the conclusion given yesterday that the Committee that prepared this Bill could not have seen this map would be erroneous, would it not, if such a conclusion were arrived at from your testimony?

[fol. 734] A. I don't think that conclusion would be erroneous.

Q. You cannot from the records which you have examined, testify that this map was in the hands of the combined committee?

A. No, I have only testified that they were in possession of the Burr map which shows this drainage in another way,—the map that was reported by the House Committee on Judiciary.

Q. And that was attached to a report made when?

A. On March 1st or 2nd—March 2nd, 1836.

Q. That is the report referred to as Report 380 attached to Statehood Bill 382, is it not, which was the Michigan Statehood Bill originally before Congress?

A. Attached to H. R. 382.

Q. And that bill was not passed, was it?

A. No sir.

Q. And there was a later bill introduced March 22nd, with a slightly different description of the boundary now in dispute, which was passed and became the Michigan Enabling Act?

A. It was the bill of March 2nd, but I don't know that there was a difference in the description of the boundary.

Q. Tracing in the two bills the description of the boundary from the mouth of the Montreal through to Lake Michigan, I began in S. 92, the bill which did not pass——

A. —S. 92 is the Wisconsin Territorial Act——

Q. —reading the boundaries from S. 177, the present Michigan Enabling Act, I will ask you to call my attention to the difference from H. R. 382, the bill which did not pass beginning with "to [fol. 735] the mouth of the Montreal river; thence, through the middle of the main channel of the said river Montreal"——

A. The difference there is "of the Montreal River" instead "said river Montreal."

Q. The next phrase—"to the middle of the Lake of the Desert";

A. Is identical.

Q. "thence, in a direct line to the nearest head water of the Menominie river;"

A. Identical.

Q. "thence, through the middle of that fork of the said river first touched by the said line, to the main channel of the said Menominie river;"

A. Identical.

Q. "thence, down the centre of the main channel of the same, to the centre of the most usual ship channel of the Green Bay of Lake Michigan;"

A. At this point H. R. 382 reads "and through the middle of the same to the middle of Green Bay."

Q. (Continuing reading from S.177): "thence, through the centre of the most usual ship channel of the said bay to the middle of Lake Michigan;"

A. At that point H. R. 382 reads: "and through the middle of the main channel of Green Bay to the middle of Lake Michigan."

Q. From a comparison of the language in those two bills, is it not apparent that in S.177, an attempt was made to make a more

easily defined channel, calling your particular attention to the fact [fol. 736] that S.177 defined the most usual ship channel of Green Bay instead of the main channel?

A. Yes.

Q. Is it not thereby evident that some committee was giving attention to this question of boundary for the purpose of defining a boundary which could be laid down?

A. Yes.

Q. And is it not a fact that they did define a boundary which could be laid down?

A. Yes.

Q. Does not the amendment of the Wisconsin Territorial Act, which occurred on the floor on March 24, 1836, following the joint meeting of the Committee, and the introduction of S.177, Michigan Enabling Act, indicate further that attention was being given to this point and in this connection I ask you whether or not the language in the Wisconsin Territorial Act as amended March 25, 1836, is not identical with the language in S.177, except that portion of the boundary is described in reverse order?

A. It is essentially the same and also essentially the same as the original language of the Wisconsin Territorial boundary description as introduced on January 21, 1836.

Q. Reading from S. 92 in the form in which it was introduced in the Senate on Jan. 21, 1836, by the Senate Committee of the Judiciary, it being specified amended in a form the difference in [fol. 737] which we will read from S. 92, both in the old and amended forms. If you will read first from S. 92 before amendment

A. "thence on the north, following the ship channel into Green Bay, to the month of the Menomonie river;" S. 92 as finally amended reads "to a point in the middle of said lake, and opposite the main channel of Green Bay, and through said channel and Green Bay, to the mouth of the Menomonie river;"

Q. Reading again from S. 92 in its original form?

Ans. "thence up the middle of the main channel of said river to its source";

Q. The finally amended form reading:

A. "thence through the middle of the main channel of said river, to that head of said river nearest to the Lake of the Desert;"

Q. Reading from S. 92 in the form introduced on Jan. 21st?

A. "thence in a direct line through the centre of Lac Vieux desert and down the middle of the main channel of the river Montreal to its mouth;"

Q. And S. 92 in finally amended form reading?

A "thence in a direct line, to the middle of said lake; thence through the middle of the main channel of the Montreal River to its mouth;"

Q. Is it not apparent that in the difference between those two bills, the final effort is to make a more specific boundary?

A. Yes.

[fol. 738] Q. Referring to Plaintiff's Exhibit "6", being the orig-

inal map found in the possession of Lucius Lyon, I call your attention to the fact, that the original found in Mr. Lyon's possession, does not have the shading on it and your testimony in regard to Exhibit "6" on your Cross examination has been to the photographic copy which does show the shading, is it not?

A. Yes.

Q. I ask you whether or not the fact that the map found among the papers of Lucius Lyon, not having the shading on it, would indicate that he received this map before or after the map sent to the committee?

Mr. Rieser: Objected to for the reason it calls for speculation, conclusion and assumes Lucius Lyon had a map at the time the boundary line was established, which is not a matter of evidence and is contrary to the actual evidence in the record.

Q. Plaintiff's Exhibit "7" is a copy of the map as found in the possession of Lucius Lyon, is it not?

Mr. Rieser: Objected to for the reason it calls for conclusion which is contrary to the actual facts in the record.

Q. So that Plaintiff's Exhibit 7 is a photographic copy of the original found in the possession of Lucius Lyon?

A. Yes.

Q. And not Plaintiff's Exhibit 6?

A. No.

[fol. 739] Q. Col. Martin, would the fact that on the map the legend 'les Lac Vieux desert" is as you say plural in the first word and singular in the second word indicate that the author was referring to a district composed of many lakes?

A. The evidence on the map is contradictory because the first word is plural and the second word singular.

Q. Would not that indicate that he was referring to that as the district of the Lake of the Desert or the lakes surrounding the Lake of the Desert?

A. It appears to me he was referring to the group of the lakes and not the region.

Q. Isn't it apparent that he was referring to more than one Lake of the Desert?

A. Yes.

Q. And would it not be apparent that he meant to refer to the lakes and the region surrounding that lake as the country of the Lake of the Desert, or that the title is meant to apply to more than the one lake?

A. I think the title is meant to apply to the lakes and not to the country.

Q. You think he meant to name them all as the Lakes of the Desert?

A. Yes.

Q. Referring to the Tanner map of 1839, which was Plaintiff's Exhibit "12", is it not a fact that by recent examination of that map in Washington, Mr. A. L. Sawyer, Special Counsel for Michi-

[fol. 740] gan, first became satisfied that that map bore the date 1839 instead of 1830?

A. I didn't know anything at the time about that map.

Q. Didn't he mention anything of that kind?

A. No.

Q. Isn't it a fact that it is the enlargement of that map which discloses that fact?

A. I don't think the Exhibit has been enlarged; but I think it is a reduction, if anything.

Mr. Rieser: You were asked whether Lucius Lyon was a delegate in 1836 to Congress. Have you made any check to determine whether that was true?

A. I found that he was a delegate to a previous Congress but not a delegate to Congress in 1836.

Q. You were asked also whether a line along the mouth of the Montreal River, and from thence to the headwaters of the Menominee river was a possible boundary?

Mr. Sawyer: Objected to for the reason that the witness has not been asked any such question, and incompetent, irrelevant and immaterial and not qualified to testify.

Mr. Rieser: In order to be a possible boundary is it not necessary to assume that the lake at the head of the Montreal River is the Lake of the Desert referred to in the Act of Congress?

A. Yes.

[fol. 741] Q. And would you consider that the fact that the Montreal River actually found its origin in one drainage basin—that is the Lake Superior basin, and Lac Vieux Desert actually drained into another basin,—that the lakes could be or would be referred to as being in the same territory or section?

A. The fact that they drained into different bodies of water does not seem to me to interfere with their being considered in the same territory.

Q. The fact that they are removed over or in the neighborhood of sixty miles, that is the Lac Vieux Desert as you know it, and as it was located on the various maps, and the headwaters of the Montreal River, and the fact that there are in that region in various directions, lakes of different sizes, some of them bearing different names and some groups bearing different names,—would you say that this region between Lac Vieux Desert and the source of the Montreal River were ever considered to be in the same territory or group?

Mr. Sawyer: I object to this—that the facts assumed by Mr. Rieser do a great deal of violence to the facts as testified in the case.

Mr. Rieser: Do you understand the question as referred to?

A. No.

(Question withdrawn.)

Q. In giving your distances through the channel of Rock Island, [fol. 742] I would like to have you indicate at what point you took your measurements?

A. Taking the measurements last testified to, I measured at right angles from a point designated R. N. 4 southward at right angles to a course marked W. ¼ S.; and the second part of the measurement at right angles from the line last mentioned to the northwest coast of Rock Island near Pottawatomie Light.

Q. But a light draft vessel could also clear the shoal known as St. Martin's Island shoal from examination of the chart, so long as it did not displace more than 16 feet of water, isn't that true?

A. The name St. Martin's Island shoals apply to two different shoals as indicated on the map. The vessel of a light draft would clear the south part of the easternmost of those shoals where a depth of 16 feet is shown; it could clear the middle or south part of the westernmost of those shoals where a depth of 15 feet is shown.

Q. And those points are at a point beyond where your measurements extended to when you were giving your evidence?

A. Yes, right to the north of where I began the measurements.

Q. Referring to the Wisconsin Territorial Act and the language used with reference to the boundary line in Green Bay as being the main channel, in your opinion can the Strawberry Passage be considered to be a main channel?

Mr. Sawyer: Objected to as incompetent, irrelevant and immaterial.

[fol. 743] A. No sir.

Mr. Rieser: I would like to have you refer to Defendant's Exhibit 162, and call your attention to lines running on the westerly side of the Door County Peninsula in Lake Michigan, and also along the easterly shore of the Door County Peninsula, and ask you if you have examined the original map to determine what those lines indicate?

A. Yes.

Q. What do they indicate?

A. The lines alluded to as shown on Plaintiff's Exhibit 5, and the legend near the upper right hand corner of the map represent "Schoolcraft's Route." That fact is indicated further by the designation along the same line in the southeastern part of Lake Michigan—"Schoolcraft's Route in 1820"; and it is still further indicated that that dotted line should not be confused with the dotted line marked "Ship-Chan," which enters Green Bay north of Pou Island, from the fact that the line marked "Schoolcraft's Route" gives the dates August 27, September 5, 6, 7, and several other dates, showing that it is the route of Schoolcraft in the year 1820.

Q. You have also verified that explanation of that route by duplicate original copy found in the files of the Wisconsin Historical Society, and produced at this hearing?

A. Yes.

[fol. 744] Q. Referring to the letters of transmittal of the map to the Committee on Public Lands, you were asked whether you knew whether similar maps had not been sent to other committees that were considering the boundary; what is the fact as to whether you have made a general and careful search through the files of the War

Department and various departments in which such files might be found to determine whether or not there was any evidence of such transmittal?

A. I made a rather exhaustive search, endeavoring to find all maps that were appropriate for use by either state in this suit, and have failed to find any indication that any other map of Burr's was used by the Committee of Congress excepting the map of Burr that is contained in the House Judiciary Committee's Report.

Mr. Sawyer: Referring again to Plaintiff's Exhibit 114, to the St. Martin's shoal you mentioned, isn't it a fact that the chart shows on the northern end of the shoal seven feet of water only?

A. Yes.

Q. And is it not well known that the measurements shown on this chart have been lowered considerably by the unlawful conversion of water by the Chicago Sanitary District?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, and to the fact that Chicago could not have deflected any water in 1836.

A. I know nothing regarding that point.

Witness excused.

[fol. 745] The defendant, to sustain the issues on its part, offered the following evidence:

CHARLES HALBERT, being first duly sworn on behalf of defendant, testified as follows:

Direct examination by Mr. Rieser:

Q. Mr. Halbert, where do you live?
A. I live in Madison, Wisconsin.
Q. And what is your profession?
A. I am a civil engineer.
Q. And who are you employed by?
A. At present by the Wisconsin Railroad Commission.
Q. Now will you state your previous engineering experience and your preparation for the work you are engaged in?

A. I graduated from the Wisconsin University in 1908. Prior to that time I had some engineering experience during the summer of 1906 in connection with the construction of a railroad between Ladysmith and Superior. Subsequent to my graduation I have been employed for a period from 1908 to 1911, about two and a half to three years by the Wisconsin Building Commission, which Commission had, at that time, charge of the construction of the Wisconsin State Capitol and the appurtenances thereto. In 1911, I was employed in the City of Madison in the contracting business for about a year. About 1912, for perhaps a period of six or nine months, I was employed by the Wisconsin Industrial Commission in the drafting of the State Building Code, which is now a law and

[fol. 746] regulates building construction in the state. Since about 1913, I have been employed most of the time by the Wisconsin Railroad Commission, and since 1915, I have had charge of all water power matters in connection with the administration of water power law in effect in the state of Wisconsin. The administration of this law requires knowledge and investigation of stream flow conditions, strength of dam structures, flowage matters and some other matters.

During the period from 1915 to date, I have also carried on a private practice and have reported on engineering projects unrelated to the activities with which I am engaged for the state, and this private practice has been mostly along the line of hydraulic matters. I have also represented the state of Wisconsin in connection with the diversion of water by Chicago, and have worked on that for the state off and on for a period of five or six years.

Also represented the state of Wisconsin in flowage matters and adjustments concerning the elevation of water around Lake Winnebago, and represented the State at hearings before army engineers concerning the level of this lake and the diversion from the Wolf River at Shiocton into Green Bay.

[fol. 747] Q. Since you have been with the Railroad Commission, has the nature of your work been such that your duties have taken you to the vicinity of Hurley, Wisconsin, and Ironwood, Michigan, from time to time?

A. Well they have prior to the starting of this case—the work of inspecting dams and granting permits for the dam on the Montreal River, and the inspection of two dams on the Montreal River have been in that immediate vicinity prior to 1924.

Mr. Sawyer: How many times?

A. I should judge perhaps five or six times.

Mr. Rieser: Have you also been familiar, in a general way, with the conditions in the Menominee River for some time?

A. Yes, for some time, my work with the Wisconsin Railroad Commission required investigation of dams under construction, granting permits on the Montreal River and Brule River, and the inspection of dams that were in existence, and prior to the commencement of this case I presume I have been in the Menominee and Brule River district as many as a half a dozen times.

Q. And you were also along on the trip down the Menominee River in the summer of 1924, from Sturgeon Falls on down?

A. Yes.

Q. Since 1920 have you made any particular study of conditions [fol. 748] in the vicinity of Hurley with particular reference to the Montreal River and its tributaries?

A. The suit was started in 1918 and my investigations were made in 1924.

Q. And they were, of course, for the purpose of advising yourself as to conditions in the vicinity of those two rivers? Is that right?

A. Yes sir.

Q. Did you have any connection with the report of the Railroad

Commission of the State of Wisconsin on Water Power recently published?

A. Yes, I had this connection with it. All stream flow data as already brought out in this hearing was prepared by the Chief Engineer working for the United States Government. The general compilation of this report together with several matters not relating to stream flow data was not prepared by me, but the bringing of the data together and the publication was under my duty.

Q. Calling your attention now to Plaintiff's Exhibit 108 containing data of stream flow on the Montreal River, and the West Branch of this river, by whom was this data compiled for publication?

A. That data was collected in the field by the representative of the United States Government, through Mr. Soule who has testified before this hearing, or his predecessor Mr. Hoyt.

Q. And then submitted to you for compilation?

A. It was submitted to me for inclusion in this report.

[fol. 749] Q. The report was published under your direction?

A. Yes sir.

Q. Now I call your attention to a footnote about the middle of the page 312, indicated by an asterisk, did you cause that correction to be made?

A. No, that correction was made by the engineers in the employ of the United States Government about April, 1924, when it appeared that just at the time this matter was going to print, it appeared that these drainage areas were in error.

Q. Under what arrangement does the United States Government and the Wisconsin Railroad Commission co-operate in obtaining information on stream flow?

A. The Federal Government furnish an engineer and pay his salary and an assistant, and pay his salary, at least in so far as about $3,500 per annum goes. The State of Wisconsin appropriates for water power purposes $15,000 per year and about $6,000 is given over to stream gaging work, so that the entire work under the present jurisdiction of Mr. Soule is carried on and paid for partly by the Government and partly by the State of Wisconsin through the Railroad Commission.

Q. Some reference was made to Spring Creek, a tributary of the Montreal River, and reasons have been given in the testimony of the State of Michigan, as to why that creek should be excluded in determining the drainage area of the Montreal River. What can you say as to the situation as to the importance of this creek?

[fol. 750] A. We feel that this creek is a tributary of the so-called main Montreal River. It probably contributes water at all times, and in any case even though it does or should dry up in extreme dry seasons, in determination of the probable flow of water in the Montreal River compared with the West Branch, or compared with any other stream, must include its entire drainage area. The dry runs or creeks which may dry up, are common to all of Wisconsin territory that is at all rolling, but it has never been the practice of any engineer in determination, so far as I have ever been able to learn, of determining the probable flow by drainage areas, to leave

out any portion because it is a dry run during part of the year, or because it might not contribute to that area during all of the year.

Q. And have you checked over and watched the Spring Creek to any extent during the past summer?

A. Well, I was there at one time when the creek was flowing a fair volume of water; that was on August 16th, and as has been testified here before, the Federal engineer measured the creek two different times and found a substantial flow, during the first time, when all of the creek and the West Branch of the Montreal were all in more than normal flow, and on the other date, October 30th, he found a flow of 3.6 cubic feet per second, which was a normal contribution we think to the flow of the Montreal River which existed on that date.

[fol. 751] Q. Has there also been a recent change of conditions in the vicinity of the headwaters of this stream, which in any way affect the flow?

A. Well, yes, probably to some extent. During recent years the city of Ironwood has pumped its water from the bed of this creek some few miles up stream from its mouth. This water we believe will otherwise go down the creek into the Montreal River. There is also a contribution to the creek by certain mines in that vicinity.

Q. And do you have the pumpage with reference to the City of Ironwood?

A. Yes.

Q. And what is that?

A. I secured from the City of Ironwood from a man by the name of Mr. Erdhardt——

Mr. Sawyer: I object to these figures. I have had no chance to check them. I may be willing to stipulate to that when I have had a check.

A. The pumpage in 1924 in even thousands of gallons per day was as follows:

In August 1,130,000 gallons. This is the average pumpage per day during the month of August.

In July—1,173,000 gallons.

In June—1,192,000 "

In May—1,153,000 "

In April—1,196,000 "

[fol. 752] In March 1,244,000 gallons.

In February 1,317,000 gallons.

In January 1,500,000 gallons.

This is an average of approximately 1,200,000 gallons per day and represents the flow during the period when an investigation was made on Spring Creek, of about 1.8 cubic feet of water per second extracted from the upper waters of Spring Creek.

Q. Now you state there was also some pumpage also into the area?

A. Yes.

Q. And what did you find that pumpage to be?

Mr. Sawyer: This pumpage includes all the pumpage by the city of Ironwood during that period and all came from the bed of Spring Creek?

A. Yes, as I was told.

Mr. Sawyer: I move to strike that testimony on the ground it is hearsay, but I may withdraw that if I check up on it.

Mr. Rieser: What did you find that pumpage to be?

A. First I want to state that prior to 1924 the pumpage ranged about two million gallons per day.

Mr. Sawyer: Objected to on the ground this witness has not qualified himself to answer. State where you got your information.

A. That prior to 1924, the city official, whose name I have given, states that the pumpage was about two million gallons per day. I [fol. 753] have specific figures for months here but they range in the neighborhood of two million gallons per day.

Now, the pumpage into Spring Creek consists of pumping by certain mines. There is a group of mines known as the Davis Mines consisting of the Davis, Puritan and Geneva and operated by the Oliver Iron Mining Company, which pump water into Spring Creek. The pumpage at these mines or pumpage from this group of mines known as the "Davis Mines" was given to me by Mr. Goldsworthy of the Oliver Iron Mining Company's office in Ironwood and by Mr. Olson, who was, I understand, their chief engineer.

The pumpage in 1924 in gallons per minute was as follows:

January	324.1
February	286.9
March	275.0
April	439.6
May	518.6
June	473.8
July	477.7
August	479.1

That water is pumped into Spring Creek. In addition to that there is pumpage from the Newport Mines. The Newport Mine also pumps water into Spring Creek. This information was obtained from Mr. Johnson and Mr. J. A. Doyle, being a Mechanical Engineer, and Mr. Johnson the Chief Engineer of the Newport Mine. They stated that the average pumpage was from 290 to 300 gallons per minute. That late in February it got down as low as 250, and that their flush pumpage in May was about 375 gallons per minute. [fol. 754] Now those two mines or those two groups of mines are the only mines which we were able to find which pumped water into the headwaters of Spring Creek.

It may be said that the Davis Group pumped probably in the neighborhood of 400 gallons per minute and that the Newport Mines pumped about 300 gallons per minute. The combined pumpage of 700 gallons per minute, represents a pumpage of 1.5 cubic feet

per second. So that we feel that for instance on October 30th when the flow was 3.6 cubic feet per second, that there was extracted normally at least by the city at that time an amount of 1.8 cubic feet per second and added to the Creek an amount of 1½ cubic feet per second, which would have made the normal flow of the Creek at that time about 3.9 cubic feet per second; one being an extraction and the other an addition.

Mr. Rieser: Now in the Montreal River basin is there any other pumpage which would either contribute or take from those others?

A. In addition to those flows or pumpages that I have referred to, there is on the main Montreal River, an additional pumpage from the Norrie Group of Mines. These mines are operated by the Oliver Iron Mining Company and the information obtained from the same source as that referred to as the Davis Group. The Norrie Group of Mines in 1924 pumped water into the main Montreal River. Those mines consisted of the East Norrie and the Norrie and the [fol. 755] Ashland, and they pumped water as follows:

In January 1924	525	gallons	per Minute.
In March	336	"	" "
In June	444	"	" "
In August	396	"	" "

I asked for only those months, thinking that they would represent fairly normal conditions and I have assumed that the normal pumpage by the Norrie Group is in the neighborhood of 400 gallons per minute.

In addition to that there is pumpage by the Pabst and Aurora Group. I think my notes are to the effect that the mines here are the Pabst Mine and the Aurora Mine, and they were also operated by the Oliver Iron Mining Company, and the pumpage secured from the company was as follows:

In January 1924	126	gallons	per minute.
In March	114	"	" "
In August	210	"	" "
In June	174	"	" "

I assume that the normal pumpage of those mines was about 175 gallons per minute.

That constitutes all of the pumpage into the main Montreal or its tributaries.

Q. That is different tributaries above the confluence of the West Branch?

A. Yes.

[fol. 756] Ans. Continuing: I also refer to that the City pumps. Also in addition to that there is pumpage into the West Branch of the Montreal River as follows:

Mr. Sawyer: How many gallons in a cubic foot?

A. 7.48 gallons per cubic foot of water. If the total pumpage into Spring Creek and into the main Montreal River, namely 300 gallons from the Newport, 400 gallons from the Davis Group; 400 gallons

from the East Norrie Group, 175 gallons from the Pabst Group, amount to 1,275 gallons per minute, which represents a flow of 2.8 cubic feet per second,—now on the West Branch of the Montreal River——

Mr. Sawyer: You are assuming that the city pumpage is all drawn out of the drainage basin from surface water?

A. The figure of 2.8 cubic feet per second represents the water pumpage into the main Montreal River. In addition to that I have testified that there was 1.8 cubic feet extracted by the City of Ironwood for domestic purposes or for city purposes—extracted from Spring Creek. That water we think—I am of the opinion would otherwise flow down Spring Creek. It is pumped into the City of Ironwood and partly sold to the City of Hurley and re-enters the river in the shape of sewage within the confines of the two cities in substantially the same quantity as pumped.

[fol. 757] Now the West Branch of the Montreal River, there is water pumped into that river by the Montreal Mines, first.—Information obtained as from Mr. Angsot, who is Manager of the Montreal Mines, and he stated that the normal pumpage of water into the West Branch of the Montreal River was 800 gallons of water per minute; that in flush times, perhaps in April and May, the pumpage ran as high as 1,000 gallons per minute. In addition to this, there is a mine known as the Carey Mine—the conference was had with Mr. L. M. Hardenburg, who is manager of the Mine, and he stated that the normal pumpage from this mine was 60 to 80 gallons per minute, and that in flush times it ran as high as 125 gallons per minute.

Now I have taken the normal pumpage on the West Branch of the Montreal River as 800 in case of the Montreal and 70 in the case of the Carey Mine, making a total of 870 gallons per minute, which represents a flow of 1.9 cubic feet per second, substantially. So that we have being pumped by the mines into the Montreal River normally 2.8 cubic feet per second and into the West Branch of the Montreal River 1.9 cubic feet per second.

Mr. Rieser: Will that make any difference in the flow so that any one looking at the streams could tell any difference?

A. That would not make a perceptible difference in flow even though it were assumed that this water augmented the flow of the streams to this extent.

[fol. 758] Q. What is your opinion as to whether or not it actually does augment?

A. That matter has been touched by Mr. Hotchkiss who testified before me in this matter, and in addition to that, I think it is quite evident that certainly this water must come from the surface or at least a substantial part of it, due to the fact that during the freshet months of run off during April and May, the pumpage increases from 30% to 50%. I might add that the flush pumpage runs usually in April, May and June—June, if you will observe the pumpage in the Davis Group, you will observe that June is as high as April or May.

Mr. Sawyer: That would depend altogether on the year wouldn't it?

A. Yes, it would depend on the year, certainly somewhat anyway.

Mr. Rieser: Mr. Halbert, has there also been a new study made of the stream flow of the two rivers the Montreal River and the West Branch of the Montreal?

— Yes.

Q. As long ago as the publication of the report that has been referred to here as Exhibit 108?

A. Yes.

Q. Now referring to the United States representative who supervised the taking of measurements during the year 1924, have you prepared a chart of the comparative flow during that period?

A. Yes.

[fol. 759] Q. Showing you Defendant's Exhibit 357, I will ask you if that is the chart you have just referred to?

A. Yes.

Q. Has that been prepared under your direction?

A. That has been prepared under my direction, and checked by me and represents the flow diagram-atically, which appears on Exhibits 348 and 349.

Mr. Sawyer: As to the introduction of this exhibit we object on the ground that it is too remote from the time and the conditions existing when the grant to the State of Michigan became effective; that it is self-serving testimony, originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial; and the further objection that there is no proper foundation laid.

Mr. Rieser: Now have you also prepared some figures with reference to the weekly flow?

A. Yes I have. I have had prepared a chart or table showing the flow of the West Branch of the Montreal River and the Montreal River at its confluence based upon the daily flow shown in Defendant's Exhibit 348 and 349.

Q. And will you produce that?

A. (Witness produces Exhibit 358.)

Q. Show you now Exhibit 358, I will ask you whether that shows the comparison of the mesne weekly discharge in the two streams?

[fol. 760] A. Yes, that I had two, as the headings indicate—the Mean Weekly Flow, unless otherwise indicated for the Montreal River and of the West Branch of the Montreal River at their confluence, from the period June 28th to December 6th, inclusive; and shows also in the last column the percent that the Montreal River flow is greater than the flow of the West Branch. I think perhaps that should be explained further. For instance, take the second line,—the flow of the Montreal River is 47.9 cubic feet per second and on the West Branch was 39—in other words, the flow of the Montreal River is 123% of that of the West Branch during that week.

Q. And that is the amount by which this percentage is determined as each week?

A. Yes sir.

Mr. Rieser: We offer in evidence Exhibits 357-358.

Mr. Sawyer: How do you explain the peaks on the larger days on Exhibit 357? Why I ask, has this been reduced to a monthly basis?

A. No, but it can be done. The peaks on the Exhibits 357 represent a period when the flow was high or large.

Q. And during those high stages what can you say with reference to the percent between the two rivers as compared to the more normal flow?

Well the first flood that occurred after these gaging stations were established, occurred due to the rain of August 3rd. There was a [fol. 761] very heavy rain. The runoff of the two streams during that flood, as indicated by the chart, shows that the West Branch came in flood a little sooner for each day higher runoff and receded in general a little slower than did the main Montreal. The second flood which was also occasioned by rain on August 20th, showed that that main Montreal came in flood and receded a little sooner and reached a higher runoff than did the West Branch.

During September, the chart pretty well represents itself.

There was a flood occurring beginning about the 4th or 5th of October. During that flood the main Montreal came into flood a little sooner, reached a higher stage and receded a little slower. That was also true with the flood generally speaking; and that was also true with the flood beginning November 10th. There was a high water period about the last of the year where the West Branch contained a higher flow than did the main Montreal.

From your study of the conditions at the confluence of the two streams and the figures that you have referred to, what would you consider as an average normal flow of the two streams in second-feet?

Mr. Sawyer: I object to that for the reason that it is too remote from the time and the conditions existing when the grant to the state [fol. 762] of Michigan became effective; that it is self-serving testimony originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial; and that it is not the best evidence and that other competent evidence is available; and that no foundation has been laid for the introduction of this secondary evidence.

A. I should say in general, looking from the chart, that probably a flow of less than 40 second feet or approximately that on the main Montreal would be considered normal and a flow of perhaps 30 or 35 second feet on the West Branch would be considered normal.

Mr. Sawyer: That you take from the chart?

A. Yes, that I take from the chart.

Q. And that would deal only with the months of the year?

A. Only the months of the year delineated on the chart.

Mr. Rieser: How would you explain the flow of greater than 40 and 35 cubic feet per second respectively in the two streams?

A. Those are caused by rainfall conditions.

Q. And are represented there by the peeks in the chart 357, is that right?

A. Yes.

Q. In your opinion, would you think the records of the stream flow shown on the diagram for the periods of six months, that the diagram covers, fairly represents the conditions of that long period of time?

[fol. 763] Mr. Sawyer: Objected to for the reason that it is too remote from the time and the conditions existing when the grant to the state of Michigan became effective; that it is self-serving testimony originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial; that it is not the best evidence and that other competent evidence is available, and that no foundation has been laid for the introduction of this secondary evidence.

A. I feel that the comparative flow of the two streams as shown on the diagram correctly represents the flow that would be found on these two streams over a long period of time. I think that probably a long record would show lower flows and higher flows than we have shown on the diagram, but I do not believe that from the comparative standpoint, different results would be obtained from those shown during the six months period.

Mr. Rieser And what do you say as to the rainfall covered by the period of the investigation as to being normal or above normal?

Mr. Sawyer: Objected to for the reason that it is too remote from the time and the conditions existing when the grant to the state of Michigan became effective; that it is self-serving testimony originating after knowledge of the dispute arose and was designed to further the interests of the defendant in a dispute then political rather than judicial; that it is not the best evidence and that other competent [fol. 764] evidence is available, and that no foundation has been laid for the introduction of this secondary evidence.

A. I had an investigation made regarding that; the August range was substantially above normal; several months vary somewhat from normal, but not materially.

Mr. Rieser: The testimony of the experts representing the plaintiff in this case were that the measurements of stream flow were taken by what is known as the "float method." What can you say as to the relative efficiency of the float method and the "stream gauge method" as taken by the United States Government?

A. I think there is very little comparison. I think the current measurements or stream flow measurements, as you have designated them, are far more accurate.

Q. What can you say as to the taking of one or two readings by the float method? Can you get any accurate measurements so as to base the relative sizes of the two streams?

A. We feel that the records of a single day are insufficient and that the float method itself is subject to material inaccuracies.

Q. And in what way might the float method be subject to error and inaccuracies?

A. It is a crude method itself and the surface velocities do not represent the mesne velocity of the stream, so that corrective coefficients must be used, which are entirely subject to judgment.

[fol. 765] Q. What about such factors as the nature of the bed of the stream and the sides, etc.?

A. The difficulty of making a float method test is of course increased with the irregularities of the channel, the roughness of the bottom, which causes the current of the river to be usually *to be* swiftest in the center and makes it very difficult to make the float measurements.

Q. You have also examined the record and heard the testimony of the witnesses for the plaintiff concerning the location of the stream where the float measurements were taken?

A. Yes.

Q. Where were those measurements taken with reference to the gauging stations established by the Government engineers which were used in securing the stream flow data, which appears in the report of the Railroad Commission, and as Exhibit "108" in this record?

A. Those measurements as near as I can determine from the testimony, were taken in both places above the gauging stations above referred to.

Q. You also know that the testimony is that these float measurements were taken on October 23, 1920?

A. Yes.

Q. Were the Gauging stations at Gile and Ironwood in operation at that time?

A. Yes.

Q. You also know from Plaintiff's Exhibit 108, that the discharge [fol. 766] as determined by Plaintiff's representatives on October 23, 1920, was 62.53 cubic feet per second on the Montreal River?

A. Yes.

Q. And 75.04 cubic feet per second on the West Branch of the Montreal River?

A. Yes.

Q. What are the flows on that date as determined by the Government Gaging Stations referred to in Exhibit 108?

A. The flow of the Montreal River at Ironwood on October 23, 1920 was 31 cubic feet per second, and the flow of the West Branch of the Montreal River at Gile was 24 cubic feet per second.

Q. You stated that the Gauging Stations were located down stream from the point where the float measurements were taken?

A. Yes down stream a short distance.

Q. Should the flow have been greater or less on that day, at the point where the float measurements were taken than at the gauging station?

A. They should have been slightly less.

Q. In view of the large discrepancy between the measurements of discharge as obtained by the float method and the determination of the discharge at the gauging station by the Government Engineers, what can you say regarding the accuracy of the float measurements submitted?

A. I feel they are very crude determinations of the stream flow and are in error in excess of 100% based upon the records at the gauging stations.

[fol. 767] Q. Are you familiar with the point at which the pumpage from the Montreal River by the City of Ironwood was taken prior to the installation of the pumping facility in the Spring Creek basin?

A. Yes in a general way.

Q. And what do you know as to whether or not that point was above or below the Gauging Station established by the Government Engineers in the Montreal River?

A. That point from which they took their water prior to the taking of it from the bed of Spring Creek was above the gauging station of the City of Ironwood.

Mr. Sawyer: Objected to for the reason that it is too remote from the time and the conditions existing when the grant to the state of Michigan became effective; that it is self-serving testimony originating after knowledge of the dispute arose and was designed to further the interests of defendant in a dispute then political rather than judicial; and that it is not the best evidence and that other competent evidence is available; and that no foundation has been laid for the introduction of the secondary evidence; and that the witness does not attempt to testify from his own knowledge.

Mr. Rieser:

Q. Now do you know that from your personal investigation?

A. Yes. I have seen the Gauge located on the Montreal River in the city of Ironwood. I have seen the pumping station, know its location was used to pump water at the time they secured all their supply from the river.

[fol. 768] Q. And do you also know the point of reintroduction of that water into the Montreal River with reference to that Gauge?

A. I know that the majority of the water is introduced below the gauge.

Q. You say is introduced. It is still being introduced?

A. It is still being introduced beyond the point at which the gauge is located.

Q. What effect does this have upon the records of the stream flow into the Montreal River?

A. At the time, records of stream flow in the Montreal River taken at the Gauging Station located in Ironwood and Hurley, are in error to the extent of the pumpage from the river and the introduction of water into the river below the gauging station, during

the period when the City of Ironwood was taking water from the river.

Mr. Sawyer: Have you any record of that amount?

A. That's prior to 1924. The City of Ironwood was pumping formerly 2,000,000 gallons of water per day. Prior to 1924, the City of Ironwood was pumping from the river approximately 2,000,000 gallons of water per day. During the early part of 1924, or the latter part of 1923, meters were installed in the city of Ironwood, and the pumpage was reduced, due to that fact from about 2,000,000 gallons per day to about 1,200,000 gallons per day. The flow which was shunted around the gauging station prior to 1920 was 2,000,000 gallons per day, which represents about 3 cubic feet per second.

[fol. 769] At this point the further hearing of evidence in this cause was adjourned to Menominee, Michigan, at such date as will be subject to the convenience of the Counsel and the Commissioner.

[fol. 770] Pursuant to agreement entered into by counsel for plaintiff and defendants above mentioned, the taking of further testimony in the foregoing entitled cause was continued on the 27th day of July, A. D. 1925, at Menominee, Michigan, before Mrs. Margaret M. Hoit, of Superior, Wisconsin, Special Commissioner appointed by said court in said cause.

APPEARANCES

Meredith P. Sawyer, Esq., Special Counsel for Plaintiff, of Menominee, Mich., and Carl D. Mosier, Esq., of Lansing, Michigan, Assistant Attorney General, for plaintiff.

Robert M. Rieser, Esq., of Madison, Wisconsin, Special Counsel for defendant.

The plaintiff, to sustain the issues upon its part, offered the following evidence, to-wit:

J. HUBERT FRANKCART, being duly sworn as a witness on the part of the plaintiff, testified as follows:

Direct examination by Mr. M. P. Sawyer:

Q. Your name is J. Hubert Frankcart?
A. Yes sir.
Q. And your home is where?
A. Pensaukee.
Q. In the state of Wisconsin?
[fol. 771] A. Yes sir.
Q. Where were you born, Mr. Frankcart?
A. I was born in Belgium.

Q. And when did you come to America?
A. We started on the 4th day of April, about one o'clock in the morning from my birthplace, in 1856.
Q. 1856?
A. 1856.
Q. You were not married when you came to this country?
A. No sir.
Q. And when you came here, you were married after you got here?
A. I got married after I got here, yes.
Q. And what was your wife's name?
A. My wife's name was Frapke. She is French, but she can't talk a word of French.
Q. Were you acquainted with your wife's mother?
A. I was acquainted with my wife's mother, her grandmother and all her relations.
Q. And where was your wife's mother born?
A. At Mackinac.
Q. At Mackinac Island?
A. No, my wife's mother was born, I believe, at White Fish, but her grandmother was born at Mackinac.
Q. And when did she first come to Green Bay?

Mr. Rieser: Objected to, calling for hearsay.

A. She first came to Green Bay in 1804

[fol. 772] Mr. Sawyer: How do you know that?

Mr. Rieser: Same objection.

A. By her telling me and her relations
Mr. Sawyer: When she came to Green Bay, just tell us how she came here?

Mr. Rieser: Same objection; and objected to for the reason it is incompetent, irrelevant and immaterial, and based upon hearsay.

Mr. Sawyer: Just tell us how she came into Green Bay?

Mr. Rieser: Same objection.

A. She came into Green Bay by being put into the boat by her father and sailed to Green Bay in the fall of the year.
Q. From Mackinac?
A. Yes, and he used to come here and trade with the Indians, and go back to Mackinac in the spring.
Q. Did she do that many years, year after year?
A. Yes, she done that many years; I don't know how many, but anyhow some of her relations are still here in Green Bay, the most of them,—such as old John Dawson; perhaps you know him, he was her sister's chum, and so was John P. Dousman's grandmother, or her sister.

Q. And for many years with her relatives, she was traveling bac and forth to Green Bay every spring and fall?

Mr. Rieser: Same objection.

A. Yes.

[fol. 773] Mr. Sawyer: Beginning with 1804?

Mr. Rieser: Same objection.

A. Maybe before that.
Q. Mr. Sawyer: But that early anyway?

Mr. Rieser: Same objection.

A. Yes, sir.
Mr. Sawyer: Will you just tell us what route they traveled fro Mackinac to Green Bay?

Mr. Rieser: Same objection.

A. They came through St. Ignace Island and up the rivers an lakes from Mackinac to Lake Michigan and through the Door.
Mr. Sawyer: Did they come through the Fox Islands?

Mr. Rieser: Same objection.

A. Yes, they came on through Fox Islands, and one time the told me that through the night they got awakened by a noise amon their hens, and they got up to go and see, and they killed abo thirty or forty.
Mr. Sawyer: Foxes?
A. Not foxes but coons, and they stayed there maybe two or thr weeks to fry them and get the oil.

Mr. Rieser: I want it understood that I object to all the eviden relating to conversations with persons from whom the witness ge the information upon which he bases his testimony and the testimon may be taken subject to a motion to strike out, if that is all right.
Mr. Sawyer: All right.

[fol. 774] Mr. Sawyer: So you say Mr. Frankcart, that they can from Mackinac down the other shore to the Fox Islands and the where did they go?
A. To Green Bay.
Q. How did they come into Green Bay from Lake Michigan?
A. Through the Door.
Q. Through the Door passage?
A. Yes.
Q. And from the Door passage what channel would they take fo lowing the east shore or the west shore?
A. They would mostly follow the east shore, only depending o the weather. If the wind was from the west, they would work the way near this shore, and if it was from the east they would make th other shore.

Q. Now Mr. Frankcart, when you came here yourself, did you come by water?

A. Yes, that's when I came by water from Antwerp to New York and then from New York to Albany, and from Albany to Chicago we came in the train, but when we left Chicago for Green Bay, we had to take the water again.

Q. Was that all in the same year, in 1856?

A. Yes sir, and within a few hours of being two months on the way.

Q. And you took a boat from Chicago to Green Bay?

A. Yes sir.

Q. And how did that boat travel after it got to Green Bay or how did it get into Green Bay?

[fol. 775] Mr. Rieser: It will be understood that all this testimony will be subject to the motion to strike out at the end of the testimony.

Mr. Sawyer: Just go ahead now.

A. We followed the west shore of Lake Michigan from Chicago to Racine and Kenosha, Milwaukee and so on, and went up Two Rivers and Kewaunee and all the ports along the way. It took us two and a half days and two nights. We started from Chicago shortly after noon and it was two days. We was two nights—that afternoon and two days and two nights.

Q. What passage did you use coming into the bay?

A. Coming into the Bay we came through Death's Door.

Q. Was that the passage the boats were regularly using then?

A. That was what I was told at that time; there was no other passage but the Door; that was talked the most about.

Q. That was the one they all talked about?

A. Yes.

Q. After coming through Death's Door, did you come down the east shore or the west shore?

A. The east shore.

Q. Did you stop at the little towns?

A. I went to sleep and I don't know how many times they stopped. I know they stopped at Big and Little Sturgeon Bay—eight or ten times.

[fol. 776] Q. Did they stop at Ephraim and those places?

A. Yes. I know the boats weren't running so fast then as they are now, and it took us from evening from Washington Island to Green Bay the next morning about four o'clock.

Q. About how big a boat did you come up on?

A It was a side wheeler—the Huron.

Q. Was she making regular trips?

A. She was making regular trips up here, but she came—on the last trip she made she was condemned and forbidden to carry any other passengers.

Q. Coming back to the time your wife's grandmother used to come back from Mackinac, what kind of a boat would they use then?

A. A sail boat.

Q. That would be about forty-five or fifty feet long?
A. Yes.
Q. An open sail boat?
A. Yes sir.
Q. That was the type of boat they used in those days?
A. Yes, and when they wanted to stay over night, they ran ashore and put up their tent or wigwam.
Q. Can you say in those days, was there any other type of ship or boat used, excepting Mackinac boats?
A. Yes, there was small schooners and big boats.
[fol. 777] Q. Was that back as early as when your wife's mother came here?
A. Yes.
Q. Did they have steamers then?
A. Yes, they had steamers then.
Q. Here on the bay?
A. Yes, they had to come on the bay to get to Green Bay.

Mr. Rieser: At this time the defendant moves that all testimony of this witness be stricken out; first, because it is based on hearsay; second, there is no proper foundation laid; third, it relates to times other than those at which the boundary line was established; fourth, that it is confined, so far as the testimony is concerned, to types of vessels and transportation not contemplated by the boundary line definition, and on the ground that it is incompetent, irrelevant and immaterial.

Mr. Sawyer: Your wife's grandmother is dead now?
A. Yes, she is dead, and I ofttimes heard them talk about Death's Door and saying that the island across the Door was in Michigan, and others, they dispute it and state that it was neither in Michigan or in Wisconsin, because it was in the lake and it belonged to Uncle Sam, and such as Guli Island, Big and Little Summer Island—that belongs to Uncle Sam yet, don't it?
Mr. Sawyer: I don't know Mr. Frankcart, I couldn't tell you.
[fol. 778] A. Them Islands—such as the Fayatte Furnace Company tried to buy them islands from Uncle Sam and the Government for years, for the timber that was on it and they could never buy them, and nobody would dare and go and get a stick of wood off it to transport it. All the wood could be cut by the people on the island for their fuel, solely for the use of the island, but to transport it, nobody could carry off a stick of wood off neither one of those islands.

Mr. Rieser: I renew that last motion as to later testimony, and I also ask that the testimony be stricken out as not responsive and incompetent, irrelevant and immaterial.

Cross-examination by Mr. Rieser:

Q. What has been your business Mr. Frankcart from the time you came to this country?
A. My business—well, the time we settled on a piece of land between Green Bay and De Pere in the town of Bellevue, and we started

to clear it up and improve it until I got to be a grown man, and I went saw-milling. I worked something like forty years in sawmills, or more.

Q. Now you say you were asleep from the time you left Death's Door until you got to Green Bay?

A. Yes, most of the time, it was at night.

[fol. 779] Q. And what you know as to what course that boat took from Death's Door to Green Bay, is what somebody told you?

A. Yes, of course it took a southward course.

Q. But what course it followed along the channel, is what some one told you?

A. Yes, what course it followed along the channel is what some one told me, but there was only one course to go through the Door.

Q. I mean from the Door on?

A. From the Door on, they follow the shore.

Q. But you didn't see that did you?

A. No, I didn't see that.

Q. Somebody told you about that?

A. I know there was no other way to get through.

Q. You didn't know those waters when you came, did you?

A. No, I would have an awful head on me, to be a young one and being in a place where I never had been before, to know all about it before I got there.

Q. Absolutely. What you have been telling us here as to what course that boat traveled, is what somebody told you?

A. I found that out from what somebody told me, and I found out that the course was the only way, was to follow the course of all boats to get to Green Bay.

[fol. 780] Q. What time did you get to Green Bay? When was it?

A. We landed there on the second day of June, 1856.

Q. Have you ever seen a Mackinac boat?

A. Yes.

Q. They are just a large row boat, aren't they?

A. It is a row boat that you could use, some of them probably fifty or sixty and maybe one hundred more corps- like yours for a coffin.

Q. It would be big enough?

A. Yes.

Q. It is like a large row boat?

A. It is bigger than a row boat and it is peaked *and* both ends and a row boat isn't peaked at both ends.

Q. They weren't in your day, but they are now.

A. Maybe.

Q. It was just an open boat?

A. Yes.

Q. And when the wind wasn't blowing the men would row them?

A. Yes, and sometimes they would come ashore and wait for the wind to send them.

Q. Do you know about how wide they are in the middle?

A. Well, there was some about eight or nine feet wide—ten feet

wide, depending on the length and the sizes—they were not all the same size.

Q. It would run from ten to twenty feet in length?

A. All the way to thirty-five feet and upwards.

[fol. 781] Q. It was the biggest one you ever saw?

A. I don't recollect.

Q. What is your best recollection?

A. I have seen some that is better than fifty feet long.

Q. And when you speak about the course that the boats took about the time you came to Green Bay, you mean the steamboats, is that right?

A. Steamboats, yes; and sailing vessels.

Mr. Rieser: Will the commissioner indicate that the witness had to think about that last answer quite a while.

Q. Did you ever sail any vessels on the lake yourself?

A. Yes sir.

Q. When did you ever sail any vessels on the bay?

A. I started and I ran a schooner myself right after the war in '65

Q. In '65?

A. Yes, in '65.

Q. That's when you got your experience as to where the sailing vessels went?

A. No, I knew all that long before I started to sail, yes sir.

Q. Well, how old were you in '65—let's see, you were about fifteen or sixteen years old; isn't that right?

A. In '65, I would be seventeen years old. I was born in '48. A young man, if he doesn't know anything at that time, he won't know much of anything in his life.

Witness excused.

An adjournment was taken to July 28th, at 9:00 A. M.

[fol. 782] Pursuant to adjournment, the taking of further testimony was resumed this 28th day of July, 1925, at 9 o'clock in the forenoon, at the offices of Sawyer & Sawyer, Menominee, Michigan, plaintiff and defendant being respectivedy represented by counsel heretofore mentioned.

Mr. Rieser: We will agree on the record that the plaintiff's testimony is closed with the exception of a possible witness as to the proceedings of the Cram party?

Mr. Sawyer: Yes.

Mr. Sawyer: Then when you get through with Mr. Halbert today, then you are going to close it, are you?

Mr. Rieser: No. I have a lot of witnesses up in Ironwood and Hurley as to conditions that exist up there.

Mr. Sawyer: I think we are safe in going ahead.

Mr. Rieser: With the further reservation that the Plaintiff's Exhibits which are being agreed upon, but as to which the formal stipulation has not been prepared, will also be offered.

[fol. 783] The defendant, to sustain the issues upon its part, offered the following evidence, to-wit:

Mr. CHARLES HALBERT, recalled as a witness on behalf of the defendant, testified as follows:

Direct examination continued by Mr. Rieser:

Q. Now Mr. Halbert, have you also made a study of the geological maps offered and referred to by Mr. Hotchkiss and the geological studies made by him?

A. To what do you refer?

Q. Rather I think the maps by Mr. Aldrich?

A. Yes sir.

Q. And particularly as to the dikes underground in the two drainage areas?

A. No, I think now you are referring to the maps back on the drainage area showing the ore bodies. I have not made any study of those maps.

Q. Have you made any study of the condition in the vicinity of Hurley, to determine whether or not the water introduced by the various mines that you have referred to in your testimony comes from the drainage area of the Montreal and the West Branch of the Montreal?

A. Yes, I have determined the location of the mines, and know in which drainage area they are located. I believe I think, as stated in the testimony before that the pumpage is entirely, or at least very [fol. 784] substantially water, which would find its way down to the river, if not pumped.

Q. Have you any other way of verifying that?

A. In addition to Mr. Hotchkiss' examination and testimony along that line, the pumpage is always greater during the flush months; during the months when the rain fall is greater and the stream flow is greater. The pumpage increases during April, May and June, sometimes as much as fifty per cent. and generally as much as twenty-five per cent. which indicates that the water pumped from the mines is water which is coming in from the surface.

Q. Did you make any investigation in the vicinity of the confluence of the Montreal and the West Branch of the Montreal?

A. Yes sir.

Q. I believe you assisted Mr. Aldrich in the preparation of the map which was offered here showing the confluence?

A. Yes, I assisted in the preparation of the division which is shown on that map when that was first made and later certain provisions were put on; those were covered by the testimony of Mr. Aldrich. Certain widths and depths were put on, and at the time I was there, the outlines of the streams which were at a lower stage than at the time the map was made, were put on.

[fol. 785] Q. And what can you say as to whether or not the channel leading from below the confluence into the West Branch of the Montreal around the westerly side of the large island, had any water running through it?

A. Not on September 16th, at the time the changes were made in the map. That was September 16, 1924.

Q. Now it has been suggested here with reference to the log jam immediately up stream from the confluence of the Montreal River—did you find such a jam?

A. Yes sir.

Q. Will you describe that?

A. The jam on the main Montreal?

Q. Yes?

A. That's a jam made up of driftwood, branches of trees, and logs and in one or two places entirely crosses the stream. There is a good deal of material on the left bank of the stream. It does not extend clear across the stream—a jam of fifty feet long or more, apparently been there for some time.

Q. You say it does not extend clear across the stream. What do you mean by that?

A. I mean there is a great deal of driftwood, logs &c. piled up on the left side at points where there is none on the right hand side of the stream. The driftwood, logs, etc. on that bank extend up and down stream a considerable distance, while on the other bank there isn't so much of it. There are logs, however, extending entirely across the stream at one or two points.

[fol. 786] Q. And about how long would you say that is?

A. I think it is fifty feet or more. The driftwood along the left bank extends of course a greater distance than that.

Q. Would you say it is anywhere near a thousand feet?

A. Oh no, perhaps one hundred, and possibly one hundred and fifty feet. I believe the Aldrich survey shows the driftwood correctly. My testimony here is from memory.

Q. Did you examine that driftwood there for the purpose of determining how long that jam had been there?

A. We did, with the idea of trying to determine how long it had been there. Since our investigation, we have had some very substantial floods on both branches of the river, and these jams have remained in place, so that it would take very much more than any ordinary flood to dislodge these jams. What leads me to believe that they have probably been there for some length of time, the logs are more or less decayed and there is some sawed timber on the banks and some saw logs in the jam. We fixed the age of that at probably exceeding ten years but probably not more than twenty. It is pretty much of a guess.

Q. Now did you also go up the West Branch with the idea of determining whether there were any jams in that?

A. Yes, we located a jam up the west branch of the river.

[fol. 787] Q. How does the west branch compare with the east?

A. That jam is located a short distance above the confluence and below the railroad bridge of the Duluth, South Shore and Atlantic, and is about 500 feet long. That is, the jam which crosses the river entirely, and through which the river has to run is about 500 feet long. The jam is made up largely of saw logs and some driftwood.

Q. And how does it compare in age with the one on the main Montreal?

A. Well, the logs seem to be decayed worse and more and there is some vegetable matter accumulated on top of the logs and some small saplings have taken root there, and last summer when I was there, were growing, and we felt that this jam was in excess of twenty and probably thirty years old.

Q. Now did you also make an examination of both streams some considerable distance above the confluence?

A. Yes, we did. We examined the main Montreal a distance up stream two miles, very carefully; that is, we were in or on the immediate bank all of that distance and above that we examined it occasionally for a distance of probably a mile or a mile and a half, making a total of three and a half miles. On the West Branch, we examined the stream carefully to the railroad bridge.

[fol. 788] Q. What railroad is that?

A. That's the Duluth, South Shore and Atlantic Railway.

Q. The first bridge encountered as you go from the confluence?

A. Yes, the first bridge encountered as you go from the confluence up stream.

Q. Mr. Sawyer: Is that a quarter or half a mile?

A. We examined the stream from there up to the highway bridge, which is perhaps another half a mile or three-quarters, by striking it in a number of places. I think we saw the stream the entire distance, although I wouldn't be positive—a total distance of perhaps a mile or a mile and a quarter up to the West Branch.

Q. What is the nature of the Montreal River above the confluence?

A. That examination was made on September 16th, I believe.

Q. What year?

A. 1924. That examination was made on September 16, 1924.

Q. What is the channel like?

A. The channel of which stream?

Q. Of the Montreal?

A. The channel with the stage of water which prevailed at that time was in width 35 or 40 feet in some places up to 80 or 100 feet wide.

[fol. 789] Q. The maximum is what?

A. 35 or 40 feet up to 80 or 100 feet. There were very few rapids over the distance. No obstructions, in the shape of log jams or fallen timber after the jam was passed, which is immediately above the confluence, with the exception of a windfall which is upstream a half a mile or so; that was a single windfall. The stream was six or eight inches deep in shallower parts and two feet or more deep in certain places. We walked in the stream a large part of that distance and the bed was rocky and uneven.

Q. From your examination of those two streams, are you able to say which of those two streams would be more easily navigated?

A. With that stage of water and over the portions referred to, there isn't any question in my mind but that the Main Montreal would be more easily navigated. I might say that the West Branch is somewhat narrow, gets down to twenty feet in width, and over the

distance we investigated it, there were more rapids, more shoals and it would be necessary to pull a boat over perhaps, and get out and push a light skiff or boat over. Of course, as conditions are now and were then, this log jam would be there 500 feet, but eliminating that, the stream was not as easy to get out with a light craft as the main Montreal.

[fol. 790] Q. Now, in determining the main channel of the river, Mr. Halbert, what elements would an engineer ordinarily consider?

Mr. Sawyer: Objected to on the ground that this man has not qualified himself to testify as to that.

A. Well, I am of the opinion that width and depth, or in other words, the cross section, should be given considerable weight, and also the volume of water should also be given material weight in determining which is the main channel.

Mr. Rieser: Would that have any relation to the matter of tributaries?

A. What do you mean?

Q. Well looking for the main channel of the river, and assuming that the river had been designated, the course of the river—would any study then be made of the tributaries of the river in looking for the channel?

A. If the course had been laid out prior,—I doubt very much whether very much consideration was given to any tributaries coming in.

Q. Did you also, in connection with some others, make an investigation of the reported so-called portage trail which has been referred to in the testimony?

A. Yes sir.

[fol. 791] Q. And who else was with you on that investigation?

A. Well, that investigation was made largely on September 17, and parts of it following. Then another investigation was made prior to that time, perhaps a month or two. The investigation of September 17th, Mr. Aldrich, who has appeared in this case——

Mr. Sawyer: Of Boston?

Answer continuing: Of Boston, and Mr. Weingert, of the Attorney General's Department, and the Indian known as "Big Joe", and another Indian known as "Chief Jim Bell, No. 2", and "Negani", also an Indian, who served as an interpreter, were along There were a couple of other men, boatmen and drivers.

Q. Now then, did the Indians point out the portage trail to you at different places,—the location of it?

A. Yes sir.

Mr. Sawyer: We object to that and ask to have it stricken out on the ground it appears in the record that these Indians did not know where it was.

Mr. Rieser: In what way did they locate the trail?

A. They found the trail at certain points, and the trail was well marked, or more or less well marked. Just how they found it, I don't know. They went back and forth through the woods in the

particular territory where they were looking for the trail, and at [fol. 792] certain points,—for instance in green timber, which had not been cut, they were able to locate a trail which was well defined.

Q. When you say "well defined",—what do you refer to, to the blazing?

A. I refer also to the fact that the trail was low, worn down in some places a number of inches below the surface of the soil, and was well marked. You could see it was packed so hard that the saplings of some maple and other trees did not root in the path, but adjoining the path or trail these little seedlings were up three or four inches, so that you could see the trail for some distance when you once had found it in any particular district.

Q. And what about the trail in the vicinity of the rivers?

A. Well, there it was also worn down. The trail was found first where it left the lake.

Q. What lake is that?

A. Long Lake is it?

Q. Long Lake.

A. The Indians landed their boats within two or three rods of where they later found the trail to be and from that point up over the brow of the hill, the trail is very wlel worn down. It was followed perhaps for a quarter of a mile or an eighth of a mile from there out in the woods and picked up again at a number of points. [fol. 793] At the crossing of creeks further on it was found, and it was located at a point where a natural portage or trail should be. The necks of high land ran down fairly close to the river on each side and the trail identified those points.

Q. Then, from the information you obtained there, did you also examine the government survey charts?

A. Yes, we had a copy of the survey charts with us.

Q. And did you determine from those whether the trail pointed out by the Indians followed substantially the trail marked on these survey charts?

A. It seemed to follow it exactly as near as we could determine from our knowledge of the maps and where we were.

Q. Now, what do you recall, anything—did the Indians point out a camp site to you near the bank of the Montreal river?

A. Yes, that was on the former trip; that was at the time we had the other Indians from Odanah.

Q. That camp site was near the mouth of the Montreal?

A. Yes, there was a camp site within a mile or a mile and a half of the mouth.

Q. Now then in the neighborhood of the village of Pence, did you also locate the general course of the trail there?

[fol. 794] A. Yes, the Indians "Big George" and Chief Jim Bell located the trail a little north of east of Pence, as I remember the locations where it crossed the river there.

Q. Did you also go to the confluence of the Pine and Balsam which has been sometimes referred to here as the Sachem or Lehman's Creek?

A. Yes.

Q. What can you say as to the relative size of those two streams?

A. Well, they appear about the same; so far as we could tell, they were about the same.

Q. And when you speak of size, what do you refer to,—width or depth of water or both?

A. Well, the width of them would probably average about the same after you got back a little ways from the confluence. The amount of water flowing there was so small that I did not attempt to make any estimate of whether there was more water in one than the other. The streams at the confluence were almost stagnant.

Q. Did you follow those streams up at all?

A. In the case of the Pine, we struck the Pine, in going across there up stream, some distance above the confluence a quarter of a mile perhaps or more and followed it down to the confluence; followed it a ways and struck it at the railroad track, which perhaps is a mile and a half or two miles from the confluence, and went [fol. 795] along in a general way to the confluence.

Q. What is the character of the country on both banks of both streams?

A. The streams run down through low valleys there, broad valleys; right at the confluence there are no trees. It is an open marshy body of land, but as you go back a little ways, you run into swampy country, which is more or less a mass of alders, making it very hard to get through right along either of the creeks.

Q. Is it possible to travel a long distance by boat on either of the streams?

A. I wouldn't think so. The streams are from four feet up to twenty feet; perhaps in some places even wider. The alders and windfalls and roots and one thing and another make it impossible, unless you went in with a crew of axmen, to get through there in a boat.

Q. How do these two streams compare as to size, channels, etc., with the Montreal below the confluence?

A. The Montreal where we saw it, of course, has the flow of both streams and it widens out and makes quite a stream. It seemed to be open and clear as far as we could see it from the confluence.

Q. And about how far would that be?

A. I would say you could see it for five hundred feet, or possibly more than that. The pictures that have been submitted show that pretty well.

[fol. 796] Q. Along that course, would you be able to travel in a canoe or boat there?

A. Along that particular part of it.

Q. You would?

A. You would.

Q. Now referring to the map of the confluence of the Montreal river and the West Branch of the Montreal river, reference is made to a correction on the basis of the lower levels of the river. What is meant by that? That is the one Mr. Aldrich prepared?

A. That map shows a condition which prevailed at two different times when the stage of water was different and the correction is merely showing the conditions as they are there, with the water at lower stage than it was at the time the map was made.

Q. In other words, the map shows the composite observations made on the two visits, is that right?

A. Yes.

Q. Do you now have any figures on the flow of the water in the West Branch at the time of your last observation upon which the correction is based upon that map?

A. Yes, that must be in the record.

Q. Well you have in mind, have you that at that time, you determined the amount of additional water that would have to flow before the water would flow through the channel west of the large island?

[fol. 797] A. Yes, I have had that matter investigated.

Q. And what is your judgment as to the amount of increase over the water flowing on September 16th, there would have to be in the West Branch before it would flow through there?

A. I think that we will have to wait for the stage of water and flow sufficient to put water around the west side of the island, until we get to Ironwood and check it up with Mr. Christopherson.

Q. Now Mr. Halbert, are you familiar with the conditions on the Menominee River?

A. Yes, to a certain extent.

Q. Especially with relation to the various dams on the river?

A. Yes.

Q. Give us the names of the various dams and as you give the names, will you specify the length of the reservoir on each dam?

Mr. Sawyer: What is the purpose of that, if I may ask? There is no dispute on it that I know of.

Mr. Rieser: There isn't anything in the record on it.

Mr. Sawyer: What advantage is it to us?

Mr. Rieser: It is quite a decided advantage to us.

A. Going up stream from the mouth of the Menominee River, the first dam is located in Section 6, Township 30 North Range 24 east, [fol. 798] Wisconsin survey. I have the Michigan location too. Do you want that too?

Q. It isn't necessary.

A. The backwater from this dam extends to the powerhouse and is about half a mile. This dam is owned by the Marinette and Menominee Paper Company. The second dam is located in Section 1, Township 30, North of Range 23 East Wisconsin survey, and is owned by the Marinette & Menominee Paper Company, and the backwater from this dam extends up on to Schappe's Rapids, a distance up river of about three and a half miles.

The next dam up stream is known as the Grand Rapids dam and is owned by the Menominee and Marinette Light & Traction Company. That dam is located in Section 5, Township 33 north of Range 23

east, and the backwater above that dam is approximately two miles. From observation, it would appear to be a mile more than that, but from maps I have it seems to be not in excess of about two miles.

The next dam up stream is known as the Pemene Dam. The Pemene Dam is located in Section 24, Township 37 N., Range 23 east. The dam is now owned, or the site is now owned by the North American Company and this company has recently acquired it as the Menominee River Paper Company. It was formerly owned by the Menominee River Boom Company. At the time we made our investigation, the back-water seemed to extend up one and one-half miles. Formerly this dam carried a much higher head and the backwater extended considerably further up stream.

[fol. 799] The next dam us stream is known as Sturgeon Falls and is owned by the Penn Iron Mining Company. The Sturgeon Falls Dam, owned by the Penn Iron Mining Company is located in Section 22, Township 38, Range 21 east, and the backwater extends up about a mile.

Little Quinnesec Falls dam is owned by the Kimberly-Clark Company and is located in Section 10, Township 38, North Range 20 east, and backwaters about half a mile.

Big Quinnesec is owned by the Oliver Iron Mining Company and is located in Sections 5 or 8, in Township 38 north Range 20 east; located just about on the section line. The backwater is one and one-half miles.

The Ford Dam constructed a year or so ago, owned by the Ford Hydro-Electric Company, as I remember it, and is located in Section 33, Township 39 North Range 19 East. The backwater extends up stream 6 miles.

The Twin Falls Dam owned by the Peninsula Power Company, is located in Section 12, Township 39, Range 19 East. The backwater extends up stream about eight miles.

The Brule Dam located near Florence, Wisconsin, is in Section 14, Township 40, Range 18 east, and is owned by the Penn Power Company. The backwater from this dam extends up stream six miles; all the descriptions are according to Wisconsin survey.

[fol. 800] Q. Now in the area embraced in the pondage within the former river bed, can it now be determined where the main channel was prior to the erection of the dams?

A. No, I don't think so.

Q. Why not?

A. The channel is entirely obliterated. The ponds in some places are deep. These heads of the dams are some of them seventy feet or more, and the flowage extends out beyond the banks of the stream in many cases. The only way it could possibly be accomplished would be by sounding, and that would be pretty much of a guess, especially after some sedimentation had taken place and deposit of driftwood and so on.

Q. Now, where are the power houses located with reference to the dam?

A. In general they are located at the description referred to here. There are some cases, however, where the power stations are down

stream a ways. That is particularly true of the dam known as "Grand Rapids" and the second dam owned by the Marinette & Menominee Paper Company. In all other cases I think the dam and power houses are located on the same description.

Q. Are they located right on the bank or out over the dam?

[fol. 801] A. In some cases they are located over what was the river channel. In most cases they are located in what was a part of the river channel.

Q. And for that reason would it now be difficult to say just what part of the power houses was in or outside of any given state, of either of the two states?

A. It would, for at least two reasons: In the first place, the stream banks and the bed of the stream is covered with water upstream and the channel conditions have been changed. Down stream at the excavation of the tail-race and other conditions at these power houses may be and in some cases are quite different than they were before the power houses were built.

Q. Are any of those dams constructed with reference to any islands?

A. Yes.

Q. Which ones?

A. The farthest dam up stream, the Brule dam uses an island which was formerly in the stream and the dam itself butts in against this island on each side. In addition to the Brule dam, the old Pemene dam was also constructed in connection with an island or two.

The Little Quinnesec Falls Dam was also apparently constructed in connection with that island.

[fol. 802] Q. Calling your attention to sheet page 38 of Wisconsin Exhibit 198, I will ask you whether Lot 7, in Section 32, Township 31 North of Range 23 east is affected by flowage of the third Marinette dam you have referred to?

A. It is within the flowage area—the island is just above the dam and the flowage extends two or three miles above the island.

Q. Are there also islands within the flowage of the various dams that you have referred to?

A. Yes, there are quite a few islands located within the flowage area of these various dams.

Q. Now, you also were along with Mr. Hotchkiss and several others included in the camping party, who made an investigation of the Menominee River in the summer of 1924?

A. Yes sir.

Q. From your investigation of the Menominee River, will you now say whether the main channel of the river can be determined with reference to the various islands along the river?

A. No, it cannot.

Q. The main channel as it existed forty or fifty or sixty years ago?

A. I don't think so.

[fol. 803] Q. And might that channel be accompanied by various stages of water?

A. Yes, I think it would be on one side of the channel, with a certain stage on the other side with a substantially different stage. That is on the theory that the channel which has the most water in it is the main channel.

At this point, an adjournment was taken to meet at Hurley, Wisconsin, at the Court House, at ten o'clock in the forenoon of July 30, 1925.

Pursuant to adjournment, the taking of further testimony was resumed this 30th day of July, 1925, at ten o'clock in the forenoon, at the Court House, in Hurley, Wisconsin, plaintiff and defendant being respectively represented by counsel heretofore mentioned.

Mr. CHARLES HALBERT, being recalled by Mr. Rieser, on direct examination testified as follows:

Direct examination continued by Mr. Rieser:

Q. Mr. Halbert, calling your attention now to Exhibits 120 and 120A, showing the confluence of the West Branch of the Montreal and the Montreal River, and calling your particular attention to [fol. 804] the channel on the westerly side of the largest island in that confluence, you testified in this matter the other day that on one occasion the water ran through that channel, and that on September 16, 1924, the occasion of the visit there by you, the water did not run through. Have you computed the amount of increase above the stage of September 16, 1924, that would be required to make water flow through that channel?

A. No, I have not.

Q. Are you prepared to give your judgment as to about the amount which would be required?

A. The stage that prevailed on September 16th was not sufficient to pass water on the west side of the channel and the flow at that time is of record here. The amount of flow would have to increase quite a little,—probably twenty or thirty percent. I should judge, before any water would pass around, and it would have to increase materially more than that before a stream of water of any size, sufficient perhaps for boating, or anything of that kind would pass around the west side of the island.

Q. Now, have you also made a study of the drainage areas of the two streams—the West Branch and the main Montreal River, to determine what the actual drainage areas are?

A. We have made as careful an investigation as we can with such maps as we have available, which we consider accurate, or at [fol. 805] least most reliable, and from these sources, we find that the area above the confluence of the West Branch is 96 square miles, and that the area above the main Montreal at the confluence also, is 109 square miles.

Q. Now, from your study of the conditions and flow of these two rivers, what is your opinion as to the value of those records

as compared with records covering a period of say—ten years or more, so far as reflecting the relative conditions of those two streams is concerned

Mr. Sawyer: Objected to for the reason that the question is based upon hypothetical condition which does not exist in this case, and is indefinite and uncertain, and that the witness is not qualified to answer, and that it is incompetent, irrelevant and immaterial.

A. You have reference to the records at the confluence? I feel that the normal and low flow records at the confluence show relatively what would be obtained if records for ten or more years, or twenty years are available. That is, records which are not affected by rain falls that pass over the drainage area, and which are comparatively of short duration. All records of normal flow or less and which are not affected by these local rain falls, or even general rain falls, which may not be distributed equally over the drainage area, I believe are representative of what we would obtain over a long period of time.

[fol. 806] Q. Now, you speak about local rainfall and the effect of local rains upon the flow. Are you able to point out upon your hydrograph some of the conditions that affected the flow differently in one stream than they have in the other? and in speaking of the hydrograph, I refer to Defendant's Exhibit 357?

A. That exhibit shows the runoff of the two streams at the confluence for the period from June to December, 1924; during that period we had five times when the runoff on the two streams was materially increased because of rainfall conditions. These are shown diagram-atically on this exhibit and all of them, with the exception of the first one, occurring from about the 3rd to the 10th or 12th of August, and with the possible exception of a short period about the end of November, show that the main Montreal flows more in such flood times than does the West Branch—the flood beginning about August 3rd or 4th and extending for ten days or so, was the largest flood that occurred during the period, and during that flood, the West Branch passed a great deal more water than did the main Montreal.

Mr. Sawyer: A few minutes ago you said the main branch at flood stage, in all except one or two instances, flowed more than the West Branch. Did you not mis-speak yourself there?

A. The main Montreal flows more than the West Branch in all [fol. 807] except this flood coming in the fore part of August and a very short flow coming the last part of November. The flood during the fore part of August, as stated, carried a great amount of water, and was caused by a rainfall which was general. However, the rainfall records in this general vicinity indicate that the heavier rainfall occurred to the west.

Mr. Sawyer: We object and ask to strike out "the rainfall records".

Mr. Rieser: Those records are United States Government records, are they?

A. Yes sir. I have a copy here.

Mr. Sawyer: We continue to interpose our objection, maintaining the records are the best evidence themselves.

A. These records show that the rainfall was heavier to the West than to the east, and I draw the inference, that in all probability from a study of these rainfall records and also from the fact that the West Branch did discharge materially more water, that there was a heavier rainfall on the West Branch than on the main Montreal.

Mr. Rieser: Now, have you examined into the matter of pumpage into the two rivers, especially with reference to the location of where the pumpage enters the rivers with respect to your gaging stations?

A. Yes sir.

[fol. 808] Q. And what did you find?

A. Well, I found that this was the situation: I think that the testimony that was offered before shows that during the time, the city of Ironwood pumped water from the river located upstream a ways from the city of Ironwood.

Q. And when you say "the river" you mean the main Montreal river?

A. I mean the main Montreal River. The testimony is to the effect that this water re-entered the river entirely below the gauge on the main Montreal river.

Mr. Sawyer: At this point, we want to interpose an objection, that it appears the witness is not testifying from his own knowledge, but from hearsay.

Answer continuing: The pumping station which is located upstream——

Mr. Rieser: You know where the pumping station is located?

A. Yes, I have been there.

Q. And you know where the point of discharge is located or most of it?

A. I have been at the outlet of all main sewers.

Q. Now locate the intake and the places where the main sewers discharge with reference to the location of your gauging station?

[fol. 809] A. The pumping station and the intake from the river is located probably in the neighborhood of a mile from the gauging station.

Q. You mean is or was?

A. Was—the station which was in operation in 1920 and prior. The main sewers from Ironwood empty into the river,—in one case I think fully a mile and in the other case fully a half a mile below the gauging station. One is located at the cemetery and the other is located at what appears to be the Fair Grounds. Now all this water which is pumped was shunted around this gauging station prior to 1920, with the exception,—and this is the only difference there is to the former testimony,—that I now understand there are a few houses which are located adjacent to the river and which empty their sewerage into the river above the station, but this is also an insignificant amount compared to the total sewerage of the city of Hurley.

Mr. Sawyer: Was there before given the amount of that pumpage?

A. Yes, it was given in amount and in cubic feet. It was given here by amounts and it was averaged off.

Q. It is also in the record prior to 1923—the pumpage was in the neighborhood of two million gallons per day. Isn't it true that part of that was pumped from wells?

A. Not to my knowledge.

Q. Prior to 1920?

[fol. 810] A. Yes sir.

Q. Now then, have you also made a further study as to where the pumpage of various mines enters the West Branch of the Montreal and also the Montreal River?

A. The amount of pumpage which was given formerly, the pumpage of the Oliver Iron Mining Company from the so-called Norrie Group and the pumpage by the same company from the so-called Pabst Group of mines, enters the river above the gauging station.

Q. What river?

A. Into the main Montreal River above the gauging station.

A. The pumpage into the West Branch of the Montreal River,—the amount of it was given formerly, and I am told that this is divided into two groups before it was given as a total. The Ottaway Group I am told pumps about three hundred gallons per minute (I get this from Michigan representatives here) and the Montreal group pumps about 450 gallons per minute. Now I recollect that the testimony before showed that 800 gallons per minute was pumped. 800 from the Montreal Mines and 70 from the Carey Mines. Now, there is a discrepancy there of seventy that I am unable to account for. I was given the pumpage as 800 gallons before.

The pumpage from the Ottawa group comes in just below our [fol. 811] gauging station and I am of the opinion that also includes the pumpage from the Carey Mine. The stream flow measurements have been made at the point within 200 feet below the discharge of the Ottawa Mines, so that our Gile records are correct inasfar as the pumpage of the Ottawa Mines, which I think also includes the Carey, but are not correct insofar as the pumpage from the Montreal Group is concerned,—they coming in below the point where our measurements are made.

Q. Now referring to the Spring Creek area, is there any change there?

A. No.

Q. Now then, reverting to the water supply of the City of Hurley, has there been any change in that?

A. Yes there has.

Q. What is that?

A. On June 27th of 1925, the City of Hurley discontinued taking water from the City of Ironwood, and of course, that has reduced the pumpage at Ironwood and the same amount of pumpage is being pumped at the city of Hurley. At the same time, I am informed by the Superintendent of Water Works of the City of Ironwood that

the City of Ironwood is pumping in the neighborhood of one million gallons, which shows a reduction, and I am also informed by Mr. Williams, who is engineer for the Hurley Water Works Company, that they are pumping about 130,000 gallons a day. This water is [fol. 812] used by the City of Hurley and re-enters the main Montreal below our main river gauging station and comes from Lake Lavina. We are of the opinion that Lake Lavina is in the West Branch drainage area, so here for a month now we have had the actual transfer of a certain amount of water from the West Branch into the main Montreal.

Q. Have you computed that—reduced it to cubic feet per second?

A. That amounts to about two-tenths (.2) of a cubic foot per second.

Mr. Sawyer: Was the activity of the City of Hurley in securing water supply due to the activity of the Federal Agents?

A. I think it was, because the City of Hurley did not pay their bills.

Mr. Rieser: Now Mr. Halbert, have you made a further study with reference to the source of the Paint River?

A. Yes.

Q. When was that study made?

A. That was made last Sunday. It was made in company with Mr. Houghtelling.

Q. And what were they?

A. I went from a point near Lake Vieux Desert to the headwaters of the Paint. I went down that River or Creek to Elmwood, Michigan.

[fol. 813] Q. Elmwood is where Michigan Highway 12 crosses the river?

A. Yes sir.

Q. Referring, Mr. Halbert, to the headwaters of the Pine river, which is a tributary of the Menominee river, does that rise anywhere near Vieux Desert?

A. It does not rise very close to Vieux Desert.

Q. Are you familiar enough with the situation up in that region to say about how far the headwaters of the Menominee river, either the Brule or the Pine as distinct from the Paint River, are from Vieux Desert?

A. I think the closest point that the Pine river gets to Lake Vieux Desert is in the neighborhood of Lake Kentuck shown on this map and located perhaps ten miles from Lake Vieux Desert.

Q. And southeasterly is that right?

A. Yes. There may possibly be a river flowing into the Brule located just to the east on this map.

Q. That would be to the east of what range?

A. To the east of the range between 12 and 13 east, of Wisconsin, which would probably be fully ten miles from Lake Vieux Desert.

Q. And that would be the closest?

A. Yes, so far as I know, either that or Lake Kentuck would be the closest.

Q. How close did the headwaters of the Paint that you followed down, come to Lake Vieux Desert?

[fol. 814] A. Less than two miles in a direct line.

Q. And from the source of the Paint, as you describe it, as rising less than two miles from Lake Vieux Desert, will you just describe the river, the nature of it, the size of it, etc.?

A. The river rises in the southeast quarter of section 28, and in the southwest quarter of section 27, and the Northwest quarter of section 34. The river is a live stream five feet wide up to twenty feet wide.

Mr. Sawyer: At its head?

A. It is five feet to fifteen feet where it leaves a large bunch of springs right at the headwaters, and going down stream it is twenty feet and in some places forty feet wide or more. I am of the opinion that these very wide spreads of forty feet are created by beaver dams or some obstructions in the stream. Where the stream is five or ten feet, there is a perceptible flow. The stream passes through a wooded territory covered with hardwood and bears in a northeasterly direction and was followed a distance of seven or eight miles to Elmwood.

Mr. Sawyer: Are you speaking now of the Paint or Cook's Run?

A. I am speaking of the Paint.

Mr. Sawyer: Do you claim that the Paint rises within two miles of Lake Vieux Desert?

A. I claim it rises in those sections and I want to look at those.

[fol. 815] Answer continuing: This stream is known as the Paint and it rises—the springs in which it rises which are closest to Lake Vieux Desert, are located in the Northwest quarter of Section 34. There is a defined stream there when you reach not to exceed two or two and a quarter miles in a direct line from Lake Vieux Desert to the north and a little east.

Mr. Rieser: I might say that part of your testimony is based upon the map showing the reservoirs of the Wisconsin Valley Improvement Company, the drainage area of which extends beyond or north of the line between Wisconsin and Michigan as now laid out?

A. Yes, the lakes here are controlled by the Wisconsin Valley Improvement Company and they are used in order to regulate the flow of the water by that company.

Q. Down the Wisconsin River?

A. Yes.

Cross-examination by Mr. Sawyer:

Q. Mr. Halbert, you testified on direct examination that the water pumped from the mines would run down the river, if it was not pumped from the mines?

A. Yes.

Q. Isn't it a fact that this water is pumped from a level in the mines which is below the level of Lake Superior?

[fol. 816] A. I think that's probably true in at least some of the mines.

Q. How do you mean that this water would flow back up into the river and then down again into the lake?

A. I think the situation is that no doubt when the mines opened, they pumped all of the water from the overbearing surfaces; and during that time water is being pumped from a level which could not find its way into the river. After that soil or earth has been pumped out, the water that found its way into the mine then is water that is coming down from the surface.

Q. And you are sure that all of that water is water that is coming down from the surface?

A. No I am not; Mr. Hotchkiss, who is familiar with the geology and rock structures and water bearing structures in this territory has so testified, and I have testified to this fact: that there is an indication that it comes from the surface, because of the fact that we have months when we have heavy rainfall and our spring break-up is usually in April, May and June, when our pumpage is 25% to 50% more than normally pumped or pumped during the winter time.

Q. Isn't it a fact that water falling upon a drainage district, part of it runs down the river, part of it seeps through the soil and part of it is lost by evaporation?

[fol. 817] A. Yes, some of that that seeps into the soil enters the river in the shape of springs further down. Much of this in this territory re-enters the river.

Q. Are you familiar with the village of Wakefield in this territory?

A. Yes sir.

Q. Are you familiar with the location where a mine is located right under a lake?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial.

A. I am not familiar with that.

Mr. Sawyer: Wouldn't the fact that the pumpage increases during the abundance of water be accounted for by the fact that there is more seepage?

A. Yes.

Q. So that the seepage and run-off are all increased during those periods?

A. Well, the runoff is increased during that period. I doubt if the transpiration is increased. Sometimes water running into the soil is not increased because the soil is already saturated with water.

Q. Are you familiar with the fact that in the destert countries they have to pump the mines?

A. No, I am not acquainted with that fact.

Q. Conceding that fact and the fact that the mine at Wakefield is operated under a lake, which maintains its level, would you still [fol. 818] believe that the pumpage was surface water?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and assuming conditions not similar to those in question.

A. I do not believe you can draw that conclusion from this proposition. You may have in one territory very close to another one,

a very impervious soil, which would not permit of rapid flow through it of water, and on the other hand you may have very coarse gravel where the soils vary very greatly as to their ability to carry water.

Q. Do you know the depth from which this water is being pumped?

A. Not only from what I have heard.

Q. Mr. Halbert, do you know where the water which is being pumped from the Ashland County Town site mines goes to? Isn't it a fact that those mines are kept dry by the pumpage in the Pabst two miles away?

A. Yes, so far as the Townsite is concerned. I have a note that the Oliver Iron Mining Company pumps the water and that it is probably pumped by the Pabst, and the other mine is what?

Q. The Ashland?

A. That water is pumped into the Oliver Iron Mining Company's mine and finally pumped to the surface by that company. That is [fol. 819] included with the total pumpage given by the Oliver Iron Mining Company.

Q. But the fact is then that a pump located in the Pabst Mine unwaters the other two mines at a distance of some two miles?

A. Well, I don't know that that is a fact,—in the Ashland mine they say——

Q. —in the Ashland and the Townsite?

A. The fact is that the Oliver Iron Mining Company are pumping the water to the surface for each of these mines.

Q. Do you know the location of that pump?

A. No I don't. The Townsite has no pump. I think it runs.

Q. Referring to Exhibits 120 and 120A, and Defendant's Exhibit 171, being the diagrams made by engineers for Michigan as 120 and 120A, the engineers for Wisconsin, I again call your attention to the one difference in the two diagrams, which is this point running down along side of the East Branch, where it comes into the confluence, I would ask you, as near as you can on this Plaintiff's Exhibit, to locate the position of the log jam—that would be just about the commencement of the diagram, would it?

A. I am of the opinion that the log jam shown would be located below the point marked "Creek," and would extend down over its whole length with the drift of the bank and all a distance of some two [fol. 820] hundred feet. I have not got the scale of this sketch, but I think the upper end of it is down stream from the small creek that is shown on plaintiff's exhibit.

Q. Now in relation to that log jam which you yesterday testified did not extend clear across the river?

A. Not in all places. I think I testified that for fifty feet or so it extended clear across the river.

Q. But you also testified that it did not extend below the stream all the way across the river, the stream flowed through it? I will ask you whether there is any indication that there has been a recent wash of the stream which carried away this point at the right hand bank of the stream as it comes into the confluence?

A. Yes, there is a wash there on the right hand bank looking down stream.

Q. You are familiar with the large stump that stands erect just below the log jam?

A. Yes, I have seen it.

Q. What is your opinion as to whether that stump is an old stump from which the soil has been washed away around it or whether it was brought down there by the flood?

A. Well sir, I don't know. The roots on the down stream side of the tree are uncovered. The roots on the upstream side of the tree are imbedded. The stump is in a nearly vertical position. The deposit around the stumps of that tree are such as might easily be carried in there and I don't know whether that stump grew there [fol. 821] or was washed in.

Q. Referring to Exhibit 120, this portion of the right hand bank of the West branch, in which the exhibit describes it as "gravel", what is your best judgment as to whether that is a deposit or the result of the wash?

A. Well, there has been cutting as stated before, on the right bank of the main Montreal. There may be some of both there—the cutting along that bank—there has been some cutting on that bank and the finer material has been washed out and the coarser material remains there. On the other hand, I am not at all sure that there has not also been some deposit on this area marked "bare gravel" here near the stream.

Q. Are you inclined to believe from the facts you have just testified, that this sketch showing a point of land running out in there in 1920 was accurate at that time?

A. Of course, I am unable to say. This cutting in here is not——

Q. What I asked you—is there any reason to believe that this is not an accurate sketch from the present condition?

Mr. Rieser: It is not an accurate sketch.

Mr. Sawyer: Plaintiff's Exhibit 171 in regard to this point running down, is that an accurate sketch?

A. It doesn't seem to me that the cutting——

[fol. 822] Q. Just get my question: is there any reason from present conditions to believe that?

A. I believe so.

Q. What is that?

A. This entire point would have to be cut off in order to make conditions conform with the way they were at that time and we have known this stream intimately now for a year. During that time we have had some very exceptional floods and the cutting in here has not been material at all, although there has been cutting there; as I have testified before, the bank is nearly vertical at a point just up stream from the confluence on the East Branch, there has been cutting. But there has not been to my knowledge any material change in there during the year while we have had a very high water, and for that reason I do not think this entire point ex-

tending out there,—I should judge from the probable scale of your map—100 feet, could have been cut away.

Q. Well now, I will ask you this question: If there has been such a change as would wash off this point and make the conditions as shown on Exhibit 120, would not that change also tend to wash out and alter the big island at the confluence, whereas as the conditions in this sketch are, the water would have been more apt to follow the westerly channel

[fol. 823] A. I don't think the water could have followed the westerly channel because of its elevation for a long period of time.

Q. Wouldn't the same action which would wash away this point, also wash out that channel?

A. That might be, but the elevation of the shore west of the channel is such that the water cannot enter it from the West Branch.

Q. At the present time the East Branch enters the confluence at a slightly lower level than the West Branch?

A. Yes, the soundings of water are deeper on the East Branch than at the entrance of the West Branch to the East Branch.

Q. And the bottom of the main stream of the East Branch just above the confluence would be probably a foot below the bottom of the West Branch just above the confluence wouldn't it?

A. I think the bottom of the stream at the present time of the main Montreal is probably that much deeper than the bottom of the stream of the West Branch.

Q. Is there anything from which you can determine the levels of the bottom of the channel on the west of the island? Was it not at one time lower than the bottom of the channel at the east of the island?

A. Yes.

Q. And that there has not been sufficient wash in recent times to lower that channel?

[fol. 824] A. I think there may have been, but the elevation on the bottom of the West Branch, and even eliminating the East Branch are such that during normal stages of water, the water from that branch could not have passed on the west side of the channel with the level as it is now, in stages of water which are normal or less. I don't believe it is possible.

Q. You recall Mr. Hotchkiss's testimony in which he said he was sure there had been no such wash out at that point?

A. I think Mr. Hotchkiss testified that there had been no wash at that point. I think there is some indication that there has been.

Q. And you are not willing to say that the map, Plaintiff's Exhibit 171 is inaccurate as of the time it was made?

A. Oh yes, I think it is quite inaccurate insofar as many things are concerned. I think the size of the island, the shape of this large island, which I do not believe could have changed much, the location of these smaller islands in here (indicating),—the angle at which the main branch comes in and a number of features I believe are inaccurate.

[fol. 825] Q. Isn't it a fact, Mr. Halbert, that the particular difference between these two sketches lies in the point which deflects the

East Branch as it comes into the confluence and in the island in the channel on the easterly side of the big island?

A. That's part of it.

Q. And this corner of the big island itself? (Indicating.)

A. There are many other features here which do not appear the same. This island here (indicating) is located entirely differently.

Q. Is that an island?

A. It is an island entirely surrounded by water in normal stages. With very low flow it is not.

Q. This so-called island in the mouth of the West Branch on sketch 120 has no growth on it at all?

A. Oh yes.

Q. Of trees?

A. No growth of trees, but it has growth of brush. They look something like willows. I don't think it is willows, I think it is grass.

Q. That is purely transitory—it could grow up in a year?

A. I doubt whether it could. You would have to form an island and get a deposit of clay material and seeds catch in there and grow to the condition it is now in. I don't believe that condition of vegetation could occur in a year.

[fol. 826] Q. As a matter of fact, in very high stages that island is entirely submerged to-day?

A. I think it is probably.

Q. Then the chief difference in these sketches to you is this island which is submerged in the high stage, the difference in the form of the long island in the east channel which is now divided into three, and the fact that the easterly point of the big island is not shown on the sketch?

Mr. Rieser: Objected to for the reason that it states an assumption that does not appear anywhere in the record that the two islands to the east of the large island are formed from the large island.

A. There are many conditions—you have a group of islands up here.

Mr. Sawyer: Let me withdraw that question.

Now beginning point for point in comparison of these sketches, the difference of this point of land here and the fact that none is shown on the survey could well be accounted for by a wash from the East Branch?

A. I think a part of it could.

Q. The difference in the shape of this large island here and that one (indicating) could be accounted for by an inaccuracy, this being a hurried sketch?

A. Yes, that's probably true.

[fol. 827] Q. The difference between the island below that and the three small islands could be accounted for by a wash of the two channels through this island, making three islands out of it and reduction of the size of it?

A. I think that that could have happened, but I doubt whether it would have happened in the four year interval between the two maps.

Q. The relative size and location of the big island is about the same with the exception of the southeast corner of the island shown on the two sketches?

A. Well it is approximately.

Q. And that shape could be altered by the same wash which carried away this point?

A. If that were true, this distance between the big island and the water course to the east would be far in excess of the distance shown on the more accurate map. The distance would be the same and the scale of this little sketch is probably one-half of the other.

Mr. Rieser: When you say "the more accurate map" you refer to Defendant's Exhibit 120-A?

A. Yes.

Mr. Sawyer: Is the only feature of the sketch which cannot be reconciled with Exhibit 120, on the theory that the jam in the East Branch caused the wash, is the lack on the sketch of the island in the mouth of the West Branch?

A. No, I think not. There are three islands shown in the sketch [fol. 828] up stream from the main island. We have no such islands as that.

Q. Have you been there very recently?

A. Yes.

Q. Isn't it a fact that on this ground which is designated in Exhibit 120 as "gravel bar" that there are three separate clumps of trees that in high stages would be islands?

A. I think not. This map was drawn during high stage. The outline of this map as shown, was drawn on August 4th, when the stage of the river was comparatively high. It would have to be in flood stage, and even then I don't know as it would.

Q. Calling your attention to Panorama No. 1 and Exhibit 120A, locating the point of the Panorama, and directing your attention to the big stump, and to the right of it another small island, which has a possibility of a course at high stages around behind it,—the island in the immediate foreground of Picture C, is not shown at all on Exhibit 120A, is it?

A. No, there is no island there.

Q. You mean there is no water passing behind this clump of trees?

A. I think not. The stump is on an island. The water may pass upon both sides of that stump.

[fol. 829] Q. But neither the location of that island or this little group here are shown on this exhibit?

A. No.

Q. And the position of this group of trees in Picture C of Panorama #1 is approximately the point of that gravel bar, or would it be below that?

A. Yes.

Q. And the relative position of this group of trees on Panorama #1 as related to the big island is about the same as one of these islands shown on Exhibit 171, is it not?

A. I think the group of trees is a point between the direction on the picture shown on the Exhibit 120A, lies between line B and C.

Q. And would only be shown on this chart as a point of low water stage here, that heavy line (indicating)?

A. The heavy line here is the low water stage, but I think there is no time when there is water passing around that point,—that is to my knowledge.

Q. Now comparing the sketch Exhibit 171, with Panorama No. 1, the point which we have been speaking of, the point of land on the right bank of the East Branch as it enters the confluence, if it existed, would have included the area where the stump is shown in the picture in an erect position?

[fol. 830] A. No, I believe it would have been farther to the east and down stream a little.

Q. Taking this stretch and trying to reconcile it with the Panorama, that stump would have been down this bank a little?

A. I believe if the outline of the bank is all right on the sketch, that the stump would have been further in the stream.

Q. When you say sketch, you mean Plaintiff's Exhibit 171?

A. Yes.

Q. The whole river goes between that stump and the other bank except in extremely high stages?

A. Yes, I think that's true.

Q. So that it might well have been that all of this gravel portion out to that stump and perhaps a little beyond that at the time this sketch was made, was land?

A. I think it is improbable because I doubt whether the wash was so extensive.

At this point an adjournment was taken to 2 P. M. July 30th, 1925.

At 2 P. M. the hearing was continued at the same place, with all parties present as before.

Mr. Charles Halbert being cross-examined by Mr. Sawyer.

[fol. 831] Mr. Sawyer: Mr. Halbert, you testified that at some distance above the confluence on the West Branch, there was a jam of logs in there 500 feet long. At the point where that jam exists there are several channels to the West Branch, are there not?

A. I think not. I think all of the water during ordinary stages passes through the jam.

Q. In that stretch of 500 feet there, the West Branch in several places divides into several channels, all of which are more or less blocked with driftwood?

A. The entire channel of the stream is filled with logs from bank to bank, substantially the entire distance.

Q. And the river there is very wide and there are islands in it which help to form that log jam?

A. I suppose there may be.

Q. Did you climb around it?

A. Perhaps half of the way.

Q. The river there is unusually wide and flat from bank to bank?

A. Yes, pretty wide.

Q. And there is very little drop?

A. I was unable to judge that by eye.

Q. But that is such a condition as we commonly do find in a wide spot with islands, that there would be very apt to be a collection of driftwood there for a long space?

A. It is not what we would term commonly "driftwood." It is an old jam of logs which have been there many years.

[fol. 832] Q. It is not all saw logs. There is a large amount of driftwood in it, isn't there—that is broken trees and such?

A. I don't know that conditions are especially favorable for a jam there. They are somewhat favorable or the jam wouldn't have formed there.

Q. At the Gauging Station on the East Branch, as distinguished from the point of gauging on the West Branch, near the confluence, is there any difference in the bottom or bed of the stream?

A. I think the control in each case is made up of rock.

Q. Speaking of the point where you take the cross section—the velocity medium——

A. I don't know where that is taken. It is probably not always taken in exactly the same place.

Q. Isn't it a fact that in the East Branch it is taken in a portion of the river where the bottom is largely bowlders and silt as distinguished from the rock in the West Branch?

A. That I couldn't tell you. Mr. Christopherson, who has made every measurement in both the East and West Branches is here and will be on the stand.

Q. Yesterday, Mr. Halbert, you testified that you thought the determination of what you thought was the main channel of the stream, would depend considerably upon the cross section and materially upon the volume. I ask you whether or not the length [fol. 833] of the stream would not have some bearing on whether or not it was considered the main channel of the river system?

A. I think I testified it would depend upon the cross section and upon the volume of the water flowing. I don't think I understand your question.

Q. In determining what is the main channel of the river system, would not the length of the branch which was being considered as the main channel have a bearing upon whether it is a main channel or not. Should that not be taken into consideration?

A. I don't know. I think we are confusing these channels and tributaries—channels and rivers. It doesn't seem to me that if we are considering the channel on two sides of an island, for instance they both come together above the island.

Q. And also below?

A. And also below.

Q. One or the other would be the main channel unless they are equal?

A. Now the length——

Q. We are not now considering what is the main channel as

respects an island, but what is the main channel as respects the branches flowing into a river system?

A. Well, I don't know. It might be given some consideration. I have never thought of it as having any weight.

[fol. 834] Q. Should the position in the drainage area, as to whether it flowed more or less down the center area, should that be given any consideration?

A. It might; but I have not given it a thought.

Q. You were speaking of cross section being a determining factor; would that be the cross section at the confluence with another tributary in question, or an average cross section?

A. I think it should not be the cross section for some little distance from the stream—the confluence should be given some consideration, but take it up its entire length, which might be 100 miles long, it doesn't seem to me it should be given any consideration over its entire length.

Q. A river system divided into two tributaries,—one of which is again divided into small streams,—the first tributary containing nearly the same size it was at the first confluence, wouldn't you think the one which carried the greater volume for the greater distance would be the main channel?

A. I would hardly think so. In the one case you would have a stream which divided up into many small tributaries and in the other case a stream which carried, the entire distance.

Q. It in turn would be smaller than the other would be at the mouth?

[fol. 835] A. I think that might be true if you had two rivers coming together, one of which was twice as large as the other, when you got twenty miles, from the confluence, the larger one might be the smaller. I cannot conceive of any one who wouldn't say that the stream which carried the main water, the large stream at the confluence wasn't the main channel at the confluence.

Q. Isn't it generally considered that the source of the river system is that point in its watershed farthest from its mouth?

A. I am not sure that that is true.

Q. Isn't it a fact that the main channel of a river system is that channel which most directly flows from the source to the mouth?

A. Well, I don't think that's true.

Q. Isn't it a fact that there are three main elements in a river—the mouth, the channel and the source, and that the channel is the connection between the source and the mouth?

A. Yes.

Q. That's the general divisions into which you divide the portions of a river?

A. Yes, I should say so.

Q. Does it not necessarily follow that that tributary of a river rising farthest from the mouth and carrying in comparison to other tributaries a greater volume of water for its entire length, would be considered the main channel of the river system?

[fol. 836] A. Yes, I think that if the tributary farthest from its mouth carried always the greatest amount of water——

Q. — in comparison with the other tributaries?

A. — in comparison with the other tributaries, that would probably be called and the main channel of the river.

Q. Would the condition ever arise where it would be said that in one year a certain tributary was the main channel and in another year another tributary, by reason of the fluctuation in the flow of the two streams?

A. No, I think as compared with tributaries, that the stream which carried the greater amount of water to its source would be normally,—usually would be the main tributary.

Q. Given a river system with two principal tributaries carrying practically the same volume of water at the confluence, one of which divides very shortly above the confluence and the other continuing practically as an entirety, which would you say would be the main channel?

A. I rather doubt whether one could say that that one which maintined the greater flow farthest up would be the main stream.

Q. You think the one which maintains the greater flow as a single stream?

A. I say I rather doubt whether one could state that that was the larger stream or could state that that was the main stream.

[fol. 837] Q. You think they would be inclined to favor the one which divided?

A. Oh no, I don't think that's true either.

Q. You testified Mr. Halbert in regard to this trail. That trail, as I understand originates or one end of it is near the mouth of the main Montreal near the Lake Superior shore?

A. Yes.

Q. That soon after that it crosses the main Montreal?

A. Yes I believe it does.

Q. As a matter of fact it travels to points on both the east and west branches until it comes above Pence?

A. Yes.

Q. From there up, both streams are very small?

A. They are at this particular stage. In normal times, the West Branch at Pence is a fair sized stream.

Q. And that trail does not again strike the West Branch until in the vicinity of the Pine and Lehman's Creek?

A. Yes.

Q. So as a matter of fact the trail does not follow the East Branch of the River in preference to the West Branch?

A. I think there are plenty of exhibits that show it here. I believe the trail, as pointed out by those who are familiar with it, follows the markings shown on the original survey.

Q. Are there any persons who pointed out that trail to you who knew of the existence of that trail before the days of mining and lumbering activities in this country?

[fol. 838] A. Well, there are men whom I suppose——

Q. — you can answer that yes or no.

A. I don't know.

Q. Was there anything about the trail itself which would indicate

it was made by Indians or by lumbermen or by men exploring for minerals or by game possibly?

A. There was ample evidence in certain places that it was not made by game because of the blazing.

Q. Isn't it common to find game trails around the country which have later been taken by men for trails and blazed to mark them more clearly?

A. It is possible that in the very original instance that was a game trail—a hundred years ago or more.

Q. Is there anything to indicate that the trail did not become well used by lumbermen and cruisers?

A. I think it was used by lumbermen and cruisers at a later date.

Q. Is there anything to show that it was in existence even before their time as anything other than a game trail?

A. There is only the evidence of the Indians that has been introduced that they knew of the trail in their early childhood and went over it at an early age and it was generally known as an old Indian trail.

Q. Then there is nothing except that hearsay passed on from Indian to Indian that this is the trail, and this may have been a trail established by cruisers in an entirely different spot from what [fol. 839] you saw when you were there?

A. That's true from my personal knowledge.

Q. Have you been at Pine Lake, Mr. Halbert?

A. Yes, I was at Pine Lake a number of years ago.

Q. As a matter of fact the waters of Pine Lake are stored by the dam there?

A. Yes.

Q. The waters of Pine Lake are also stored by the sawmill some distance above Ironwood, are they not?

A. Yes, there is a dam there, yes.

Q. As the result of the dam at Pine Lake and the dam at the sawmill storing the water, the flow in the East Branch has become a more steady flow?

A. Well the hydrographs don't seem to indicate that at the confluence.

Q. Isn't it a fact that this storage of water up there by low stages, would maintain more water in the east branch by reservoir?

A. It would depend on whether the dam was in operation during the time the records were taken.

Q. Do you know whether or not the dams were in operation?

A. I am told that the dam at the outlet of Pine Lake was not in operation last year.

Q. That dam is a source of power for a hydroelectric plant was it not?

A. No.

[fol. 840] Q. For what purpose was it used?

A. The water was released, if I am correctly informed at one time so as to insure a water supply for the cities of Ironwood and Hurley. The cities finally acquired these waterworks properties and have con-

structed their source of water supply and the dam has not been used for a long time.

Q. The dam is still in existence?

A. The dam is in poor condition as I am informed.

Q. But it would be a reservoir which would supply the system rather than a river where there was no dam?

A. If the gate was open and the dam not used, it would not have any such effect—the water would run out of the lake just as though there was no dam there.

Q. When you were in the vicinity of the Pine and Balsam do you know whether or not the dam at Pine Lake was open at that time?

A. No I don't except the information that the dam was not in operation last year at all.

Q. Isn't it a fact, Mr. Halbert, that when you were there it was quite apparent that although the water in each stream may have been equal at many times, that the Pine assumed the characteristics of a river while the other was a creek?

A. No, I don't think that's true. I don't think there is any indication at the confluence or above the confluence for the distance we traveled that one stream carried more water normally than the [fol. 841] other.

Q. I am speaking now not of the normal condition, but of the flood stage?

A. Well during flood time.

Q. You don't think at any time the Pine was bigger than the Balsam?

A. Oh, yes, I haven't any doubt that these streams at certain times, one of them was larger than the other. It depends on local rainfall conditions.

Q. You think Lehman's Creek is bigger than the Pine?

A. I think it might be if we had the rainfall.

Q. They both drain the same area?

A. Yes.

Q. It is very unlikely that there would be an uneven rainfall there?

A. It very seldom happens.

Q. You are sure the Pine was bigger?

A. There was not much evidence of the stream at the higher stage. I saw a little on Lehman's Creek—especially a little grass and stuff which had collected on the lower alder branches, but at the confluence itself during heavy flood times, I think the banks of both of them are entirely overflown. There isn't any place there where you can see the height of the water, so there was no evidence at the confluence that the height of the water was greater on the Pine or on Lehman's Creek.

[fol. 842] Q. Did you make any study as to the comparative drainage area of the Pine?

A. No, I have not.

Q. As a matter of fact, the Pine heads in a fairly large lake?

A. Yes.

Q. And the Lehman's Creek is shorter and does not head into a lake?

A. Lehman's Creek doesn't head into a lake.

Q. Isn't it quite common to designate the source of the stream as in a lake?

A. We refer to the source of a stream as rising in a lake.

Q. And under those conditions, it would be true that there was some drainage beyond the lake?

A. There is always a little but not always any great amount.

Q. So the fact that there were little creeks flowing into Pine Lake or there might be little creeks flowing into Island lake, they being at the head of respective branches, would it not be arbitrary to say that the source of either branch of the Montreal was in those lakes or that the stream rose in the lake?

A. The farthest upstream headwaters is in those lakes. There is no question but that the stream itself rises in the lakes or further upstream than the lakes.

[fol. 843] Q. Are you at all familiar with the Island Lake country?

A. No, I am not familiar with that.

Q. You are not at all familiar with that territory?

A. I have driven as close as can be driven with a car.

Q. You haven't walked along the West Branch down from the lake at all?

A. No.

Q. As a matter of fact, that's pretty wild country?

A. Yes sir.

Q. How far from the confluence of the East and West Branch is it to this town of Pence that has been spoken of in the testimony?

Mr. Sawyer: I will change that question.

Q. What proportion of the West Branch lies between Pence and the confluence, approximately?

A. That depends on how far up the West Branch you want to go. You want the proportion from Island Lake to the confluence?

Q. Yes.

Q. I can change that from Pence to where you claim the trail crosses southeasterly of Pence; what proportion of that lies between the crossing of the trail and the confluence as compared to the river from there up to Island Lake?

A. A little less—about 8/18 of the length of the river from Island Lake to the confluence of the main Montreal and the West Branch.

Q. Will you give us that in miles—that ought to be easy to count [fol. 844] off on the sections?

A. I think it is about nine miles the way the river flows from where the trail crosses it to the confluence.

Q. And both distances the trail has followed to the westerly of the West Branch?

A. Yes.

Q. And is there any point where it follows along the east branch at all?

A. Well, it crosses—you mean the east branch of the Montreal?

Q. The east Branch of the Montreal?

A. It crosses the main Montreal or the East Branch——
Q. To the south of Cram's Monument?
A. Yes, to the south of Cram's Monument.

Mr. Rieser: When you said that, you referred to Defendant's Exhibit 355 as shown on that exhibit?
A. Yes sir.

Mr. Sawyer: In your testimony yesterday, you spoke of the pondage in the Menominee river and stated that in those ponds it would be very difficult, if not impossible, to determine at the present time where the main channel was in 1835. Is it now known in those ponds where the boundary line is or where it is claimed to be?
A. That's what we are trying to find out here, where the boundary line is.
Q. As a matter of fact, you couldn't go into the pond in any one [fol. 845] of those times and say the line lies here at the present time?
A. Yes, I think at the present time you couldn't identify the places where the banks of the old stream were.
Q. That could possibly be done by discharging the pond?
A. In some places it might?
Q. As a matter of fact, it is not known today where that line is?
A. We would know where the river was if the pond was not there.
Q. You don't know, nor does any official in the state of Wisconsin know today just where that line is in those ponds?
A. I think not.
Q. In your work in the Railroad Commission, do you have any supervision of the improvements across the river by the state?
A. Not at this time; we did at one time.
Q. Do you have any knowledge of how that is done?
A. Yes. I think that the local assessor in these various towns—I know that he does it.
Q. He assesses that portion of the improvements that he conceives to be in his territory?
A. Yes.
Q. In so doing, do you know whether or not he attempts to assess the value of the physical proportion of the improvements which is in his jurisdiction or does he take into consideration and assess the [fol. 846] whole value of the working improvements and attempt to assess it upon that basis?
A. I am inclined to think that our laws are such that he is supposed to take into account the physical property.
Q. Now, directing ourselves to a particular instance, you are familiar with the Grand Rapids developments of the Marinette-Menominee Light & Traction Company. As a matter of fact, physically but a small proportion of that improvement is in the state of Wisconsin?
A. But a small proportion of the entire development, power house, equipment and dam.
Q. Only a small portion of it would be in the state of Wisconsin under any possible construction of the boundary of the main channel of the river?

A. It is true that even if the boundary of the stream were fixed on the east bank of the Menominee river, they would get only a part of it.

Q. Do you know what the assessment against the Marinette-Menominee Light & Traction Company for the proportion of that improvement in Wisconsin is?

A. In the case of public utility corporations operating in more than one assessment district, the assessment is made by the Wisconsin Tax Commission and it is made in entirety and on an earning basis and is distributed by them largely on an earning basis, so that I think insofar as public utility property is concerned, my previous [fol. 847] answers are in error and that the property is assessed as an entirety, not only the property of the dam, but the property in entirety.

Q. But the township is assessed against the dam?

A. The township does not assess against the dam in case the property is owned by a public service corporation.

Q. In Michigan they do?

A. They may.

Q. So as a matter of fact the M. & M. Light & Traction Company is assessed not on the value of the end of the dam which is in Wisconsin, but on the potential earning capacity of the improvement?

A. Yes, upon that improvement and the whole business.

Q. The equipment on the Michigan side and the further equipment on the line from there to Menominee because of the fact it serves Marinette is all taken into consideration in Wisconsin taxes?

A. Of course the Wisconsin Tax Commission is not assessing any property located in the state of Michigan.

Q. But their assessment is based upon that value is it not?

A. No, based upon the value in the state of Wisconsin, but the value is determined from its earning power.

Q. In determining what proportion of the total value of the Marinette & Menominee Light & Traction Company as figured by your Tax Commission, do they take the ratio of the proportion of the dam in Wisconsin—the proportion of the development in Michigan to the proportion of development in Wisconsin, at the dam?

[fol. 848] A. I will tell you this is the situation——

Q. You can answer that?

A. Maybe I can, but I would like to explain it first—the only way I can answer is that I don't know.

Q. Then I understand that the Wisconsin Tax Commission procedure as to public service companies which are operating across the Menominee and in more than one assessment district, that they take the total physical value of the property of the company and the earning capacity of the property of the company and fix an assessment based upon both under the basis of your income tax law?

A. I think the Income Tax assessor is guided mostly in all assessment districts—is guided by the earnings—not entirely.

Q. Then the property is taxed by the state of Wisconsin in proportion to the total as the physical property in Wisconsin bears to the total physical property, is that not true?

A. I think after the total assessment is made for a property that is in more than one assessment district, the assessment and the tax collected because of the assessment, is distributed among the various assessment districts in proportion both to the physical property in that district and to the earnings in that district.

[fol. 849] Q. And that would be true and in so doing they would consider that portion of it in Michigan as though it were in another district in Wisconsin?

A. They would consider as though they didn't own it at all. It is not under the jurisdiction of the state of Wisconsin.

Q. But they would so fix the proportion to be paid in Wisconsin as though that was being paid in another district in Wisconsin and not collect that item?

A. I would prefer to say that they would fix the value on property that is located in Wisconsin, and not fix the value on property that lies without the state.

Q. Is there any claim in this lawsuit that Wisconsin is in possession of any territory belonging to Michigan within any of the ponds above any of the dams you have mentioned?

Mr. Rieser: Objected to as the witness not qualified and not familiar, and asking the witness as to what Wisconsin claims and asking for a legal conclusion.

A. I am of the opinion there is territory.

Q. Is Wisconsin today exercising possession of the territory under these ponds or in these ponds up to any definite line, any known line?

Mr. Rieser: Objected to as calling for legal conclusion and the further fact that it does not appear that Wisconsin is possessing any such territory.

A. I don't know.

[fol. 850] Q. Not that you know?

A. I don't know.

Q. But so far as you know, they are not occupying up to any definite line?

A. That's true.

Q. In your experience with the Railroad Commission, you have never been told that Wisconsin owned up to any line in those ponds?

A. No, I have not.

Q. As a matter of fact, the question in this suit is to determine where the main channel is and both parties conclude that the main channel determines the boundary line?

Mr. Rieser: Objected to as calling for legal conclusion and incompetent, irrelevant and immaterial.

A. I don't think that's true, if I understand the situation correctly. The lawsuit we are in here now, it is contended by Michigan that an island, for instance, which is now an island belonging to

Wisconsin—that island would be—the boundary line would be so changed that it would become a part of the state of Michigan. I am of the opinion that we have just such islands in the ponds of certain dams.

Q. Which ones?

A. We have islands in the ponds in the first dam in the cities of Marinette and Menominee.

Q. As a matter of fact that is no longer a part of the dam?

[fol. 851] A. The backwater from the dam below extends clear to the tail water of the dam above.

Q. In that particular spot the backwater is not such that it has changed the channel in any way?

A. I don't know whether it has or not.

Q. You would not be willing to say that that back water has so changed the situation there that you could not determine which is the main channel?

A. Sedementation has taken place so that it would be difficult to tell what is the main channel.

Q. It would be possible to tell that by the men who constructed the dams telling the condition before they constructed them?

A. I don't know whether you could secure that information or not.

Q. Is there any other pond in which there is an island which is in question?

A. I think so.

Q. You referred in your testimony as to Little Quinnesec and Pemene dams as being dams constructed in connection with islands?

A. Little Quinnesec and Pemene dams as being dams constructed in connection with islands. In connection with the Pemene dam, the old structure was constructed by two islands having been used as part of the dam. I am not at all sure that the construction of [fol. 852] that dam has not changed channel conditions so that it might be hard to determine now which of the channels was the main one.

Q. You say you are not at all sure that it is not. Have you any reason to believe that it is?

A. I have not investigated thoroughly enough to know whether it is or not.

Q. Isn't that also true of the Boom Island as we call it in Menominee? Have you investigated that to determine whether or not it is possible?

Q. You have quite a different situation in regard to the lower dam in Menominee. These islands I speak of are in the pond area. The islands above the old Pemene dam were used in the construction of the dam.

Q. They were entirely below the dam?

A. The headwaters are on the islands at Marinette which are located within the pond area. There you have a different condition and you have sedementation going on which distributes.

Q. As to those islands, there is one known as the Boom Island,

which was part of the old second dam, and the other which is unquestionably in Wisconsin?

A. The original surveys show four.

Q. What are those?

A. The first dam is in section six, Wisconsin survey; the first dam is located below these four islands in the city of Marinette.

[fol. 853] Q. Are you sure of that?

A. I know it is in section six; it must be below three of them; I am not quite sure it is.

Q. The first dam then is practically on the line,—on the west line of township 30 north?

A. I am not quite sure of that. I know the first dam is located in section six and all four islands right to the north of the township are within the pond area of the one called "First dam."

Q. From the original plat it is very easy to tell which side those islands are on?

A. The original plat seems to indicate that three of them are to the south and one to the north, but I am not at all sure that that is the situation.

Q. You have no reason to believe that it is not?

A. No.

Mr. Rieser: Is there any indication that two of those islands were surveyed at the time the survey was made or were they just sketched in?

A. I think two of them were meandered and two were not.

Mr. Sawyer: And the minutes of that meander would still be available?

A. I presume so.

Q. Have you examined the plat of the other township to see if they are shown meandered?

A. Two of them were apparently not meandered as shown in their township.

[fol. 854] Q. This one is meandered in this township and these two are meandered here, are they not (indicating)?

A. Apparently one of the four islands was not meandered.

Q. And that's the one to the Michigan side of the river?

A. The one that is shown that way (indicating) in the survey.

Q. Do you know of any way to determine where the boundary line in these ponds is other than to determine the main channel as it existed in 1835?

A. The point is I don't know how to determine the main channel.

Q. Just answer my question—do you know of any other way than to determine the main channel in some manner?

A. No I don't.

Q. You spoke yesterday of some dams on the Menominee river where it would be impossible to tell on which side the power house or a portion of it was located?

A. I think not.

Q. There is no such condition as this?

A. I think that the power houses built in connection with every dam are plainly on one side or the other of the stream. That answers your question.

Q. And in all cases it could be determined whether or not the power house is on one side or the other of the main channel of the river as it existed in 1835?

A. I don't know whether that could be done or not. I am inclined to think it could not.

[fol. 855] Q. And as far as you know as to any islands above the surface of any of these ponds, it would also be very easy to determine where that channel was in relation to islands?

A. I don't think so, so far as I know.

Q. So far as you know it would be easy to determine the main channel of the river in relation to any wide islands and any of the islands, would it not, which are now out of the pond?

Mr. Rieser: What do you mean by out of the pond?

Q. Which now appear above the pond?

A. I have not investigated that thoroughly enough to determine.

Q. I can change the question. You don't know of any islands in any one of the ponds where there would be any difficulty in determining it?

A. I think there would, because some of the islands are entirely submerged.

Q. You don't know now of any islands in any of the ponds where it could not be determined on which side of that island was the main channel of the river in 1835?

A. I don't know where it could not be determined, but I think it might be very difficult to do so.

Q. Can you tell us, following up the descriptions of the dams, which you gave the other day, one by one,—the first dam of the Marinette & Menominee Paper Company—of what construction is that?

A. That, at the present time is a concrete dam.

[fol. 856] Q. And where is the development, as to the power house and so on?

A. At the present time, the manufacturing plant is on the Michigan side of the river.

Q. And the power is developed there?

A. Yes.

Q. And the second dam?

A. That is also at this time a concrete dam.

Q. And where is that development?

A. The power development and the manufacturing plant is on the Wisconsin side of the river.

Q. Do you know anything about the division of taxes as to either of these, as to what proportion is taxed in Wisconsin and what proportion in Michigan?

A. I don't know definitely, no.

Q. Do you know approximately?

A. I know this, that the local assessor is charged with the assessing of all the physical improvements located within the city of Marinette and he must include—his duty is to include all the physical property that is there.

Q. In the case of the first dam would it be his duty to include anything other than that portion of the dam in Wisconsin?

A. No.

Q. That is all he could tax?

A. Yes.

Q. Do you know anything about the amount of valuation that they put on that?

[fol. 857] A. No I don't.

Q. Would it be anything more than the actual value of the concrete and the steel in the dam?

A. I think that the improvement to the real estate would only be the probable cost of that part of the structure that is in Wisconsin.

Q. And would they deduct from that the loss of value of the property which is flooded by the dam?

A. We have two assessments in Wisconsin—the ordinary local assessments: one is on the land and the other is on the improvements to the land. The assessment on the improvements as I say, would include a value representing the cost or the ordinary sale value of those improvements. The assessment upon the land would include not only the land value but would also include, or should include, the right to use the water that is appurtenant to those particular descriptions of land.

Q. Now the selling value of one-half of the dam would be nothing without the other half?

A. No, I think that's not true. We have dams that are owned jointly.

Q. Then in assessing that half of the dam, you would consider that it was worth half the value of the whole dam?

A. Other conditions being the same, I presume so.

Q. Now, as to the third dam at Grand Rapids, that is a concrete dam also?

[fol. 858] A. Yes, that is a concrete dam also.

Q. And the power development is all in Michigan?

A. No sir.

Q. At Grand Rapids?

A. Oh, you are speaking of the third dam?

Q. Yes?

A. The third dam owned by the Marinette & Menominee Light and Traction Company is a concrete dam and the power house is located on the Michigan side.

Q. Do you know the amount of the assessment against that dam by the state of Wisconsin?

A. No I don't.

Q. Now as to the fourth dam—the Pemene Dam is merely the wreck of the old log dam, is it not?

A. Yes.

Q. And there is no power development there at the present time?

A. That's true.

Q. The fifth dam at Sturgeon Falls is also a concrete dam with a power house on the Michigan side, is it not?

A. Yes.

Q. And the sixth dam at Little Quinnesec, the power house is on the Wisconsin side?

A. The power house and manufacturing plant is on the Wisconsin side.

Q. How about the seventh dam?

[fol. 859] A. The seventh dam is owned by the Oliver Iron Mining Company and I believe the entire—I believe all of the power house and the manufacturing equipment are on the Michigan side.

Q. And the eighth dam—the Ford dam?

A. Well, the Ford dam, the power house is in the river area—extending from the bank out into the stream from the Michigan side.

Q. Is there any question but that plant is all on the Michigan side of the main channel of the river as it existed?

A. I don't know—the main channel is in the thread of the stream, or midway between the two banks—then I think that the entire plant is on the Michigan side.

Q. That's a very recent development?

A. Yes.

Q. And the conditions that existed before could be very easily proven?

A. Yes.

Q. At the Twin Falls, where is the power house located?

A. That is located also out in the stream. It is a concrete dam. I believe that the dam—the power station is located on the Michigan side, but I am not quite sure of that.

Q. As to the Brule dam of the Penn Power Company?

A. The Penn Power Company Brule dam, the power house is located on the Wisconsin side of the stream, but they have a condition there at that place, the power house extends well out into the river. In fact, if the old river channel is assumed to have been between an island and the Wisconsin side, then I should think that the power [fol. 860] house would extend and be more than half way across.

Q. And is that easy to determine from below that island where the main channel in relation to the islands, was before the development?

A. It is not easy to determine. Of course the thread of the stream would be in the place where the water runs the swiftest. That is naturally obliterated. It would be possible to determine approximately at least, where the center line of the channel was.

Q. As to that island, the channel on either side would be very easy to determine before the construction, which side carried the greater volume of water?

A. I think that could be determined at that time; that is it could be determined by hearsay.

Q. It could be determined by testimony of people who have seen it?

A. Yes I think it could—the dam is less than ten years old.

Q. Which side of the main channel of the river as you view it, would you say it was on?

A. As I viewed it before the construction of the dam, I am of the opinion that the main channel was between the island and the Wisconsin side.

[fol. 861] Q. So that the island would probably belong to Michigan if the main channel were the boundary?

A. Yes.

Q. Do you know whether or not Michigan taxes the islands at the present time?

A. I don't know.

Q. At Pemene dam, which you mention as being braced against the forward end of a couple of islands—is it not quite apparent there at the present time, which side of those islands the main channel of the river has always been?

A. No, I don't think it has; I am not sure which one of those carried the most water.

Q. One of them is many many times wider than the other?

A. One of them is wider than the other but I don't think it is twice as wide.

Q. Is there any reason to think that the greater volume of the river would go through the narrower channel?

A. Well, sometimes it does.

Q. The condition of the river channel on both sides of the island has not been altered by the construction of the dam, has it?

A. I don't suppose it has materially, but the discharge from that dam is largely between certain of the islands, since its construction and if there has been any washing at all——

[fol. 862] Q. It discharges on a bare rock, doesn't it?

A. Yes.

Q. And the wash during that period would be very slight?

A. It would not be very much.

Q. You read the report of the Michigan engineers on those islands?

A. Yes.

Q. Have you any reason to disagree with their conclusion on that?

A. There is a number of places where——

Q. As to these islands particularly?

A. I don't remember now particularly.

Q. You have no reason then to find fault with the report of the Michigan engineers that those islands at the Pemene dam are on the Wisconsin side of the river?

A. Well I don't know as they are.

Q. You say you have a reason to believe?

A. No I have not—from observation and remembrance of my trip down there, I would believe that the farthest island to the east was probably east of the main channel which must have been through between the two islands or the first island and the Wisconsin side.

Q. As a matter of fact when you were there, you were looking for conditions which it would be impossible to tell rather than for conditions which would determine the main channel of the river?

A. No, I don't think it would be so constructed.

Q. Now referring to sheet 38, Defendant's Exhibit 198—Lot 7, [fol. 863] -32- 31- 23, as a matter of fact, that island exists in the pond above the second dam in the city of Marinette to-day and is occupied?

A. That island is still in existence there and there could be no question as to what state that is in. All the appearances are that that island is on the Wisconsin side of the stream.

Q. Have you seen it since the pond was formed?

A. Yes, there are two other islands also shown. We believe that there are three islands in the back water of the so-called second dam —two are submerged.

Q. Are you familiar with the two islands above what is known as Shappe Rapids in the Menominee river?

A. Are those the twin islands?

Q. No—just above Shappe Rapids. Are you familiar with the fact that there are two islands just above Shappe Rapids?

A. No.

Q. That would be in either lot 2 or 3 of Section 13, Township 31, Range 22. Now coming up to the Montreal river at the gauging stations,—does the character of the bottom of the river and the West Branch permit of a greater amount of sub-surface drainage in the West Branch as distinguished from the East Branch at the gauging stations?

A. At the confluence?

[fol. 864] Q. At the gauging station near the confluence, yes?

A. No, I don't think it does.

Q. Sub-surface drainage is greater on a large stone and gravel bed than it would be in a mud bed, would it not?

A. It depends entirely upon your sub soil.

Q. But the immediate sub-soil is apparent in both instances?

A. The immediate sub-soil in both instances are well locked.

Q. In the West Branch more than in the East Branch?

A. I don't think so. It has a mat of rock over the entire shore of the east and west branch. At the point below our gauging station, which is in the backwater of the dam, our control is a sheet of rock course.

Q. But the measurements of water is taken at the point where the bottom is soft in the East Branch and hard in the West Branch?

A. The measurement of water is taken above the gauging station on the East Branch where I think the floor of the stream is entirely rock, covered with bowlders.

Q. Those stone are set in the mud so that there is a comparatively soft bottom there as compared with the other?

A. I don't know as that's true.

Q. Have you examined?

A. The appearances are in the entire bed of the stream to-day in both cases there is a rock course on the floor of the stream in both cases, entirely covered with rock, up stream from our gauging station [fol. 865] on the East Branch of the main Montreal where the measurements were taken.

Q. Isn't it a fact that the rock in that pond on the East Branch are set in mud and on the West Branch there is nothing but rock?

A. I don't think so.

Q. The corrected drainage area as you gave it this morning is substantially the same as given by the Michigan engineers, is it not?

A. Yes, substantially.

Q. What proportion of the drainage area which you gave this morning for the West Branch above the confluence is between the Gile station and the confluence?

A. I have those in square miles rather than in percentages.

Q. Yes,—if you will give it to me in square miles?

A. We have a drainage area of 78 square miles at Gile and we have 18 between Gile and the confluence.

Q. Now, as to the East Branch, what proportion of the drainage area of 109 square miles is in Spring Creek?

A. We have Spring Creek determined as seventeen square miles.

Q. You made no separate determination as to the Pine and the Balsam?

A. We have not.

Q. What is your reason for correcting the drainage area on the West Branch from the figures you gave at Madison?

A. The entire testimony in Madison was that the drainage areas [fol. 866] were taken from the original survey or the Michigan map corrected by the original survey, and they are the drainage areas which we think would exist in case the original survey is correct.

Q. You have since found, however, that the Michigan map was taken from a more accurate portrayal of conditions and is more accurate?

A. I am told that way and I am inclined to think that's true.

Q. You now find that that is taken from the Government plats as corrected by the cruisers of the Oliver Iron Mining Company?

A. I am told it is.

Q. In your last correction of the drainage area, what area do you give to the East Branch of the Montreal above the gauging station?

A. That is exactly as Mr. Soule gave it. The area above the gauging station is sixty-six and that between the gauging station and the confluence is forty-three.

Q. You have no record of the flow at the confluence for the months of January, February, March, April and May?

A. I think our record started some time in May.

Mr. Christenson: For this year, our record started April 2nd.

Mr. Sawyer: Have you made any comparison between the flow at the confluence and the flow as gauged at Ironwood and Gile for those months, to determine whether there would be any different [fol. 867] ratio during those months?

A. During those winter months?

Q. Yes?

A. No, we have not. I am not at all sure that both the gauging stations at Gile and Ironwood were in operation during the winter. There were no records during the winter months at Ironwood.

Q. Your records at the confluence do show, as I understand it that at the extreme flood, as shown by the record, the West Branch was considerably larger than the East Branch at the same flood?

A. At the same flood.

Q. And there was no flow at which the East Branch reached a greater stage than the West Branch at that flood, as shown by your records?

A. The records show that the highest flow we had was on the West Branch.

Q. So far as you know, there was one time when the West Branch was discharging more water than the East Branch ever discharged so far as you know?

A. At the confluence, that's true. Then I will have to correct my former statement; at the time we started our gauging station at the confluence about the first of April, we had a higher flow discharge on the main Montreal River than we ever had on the West Branch since the two stations were put in operation.

[fol. 868] Q. Will you give the footage in discharge there?

A. The discharge was 328 cubic feet per second on April 2, 1925, and of course also on between April 20th and 30th we had a flow of 315 cubic feet per second on the main Montreal, which was at least forty cubic feet per second higher than any flow we have ever had on the main Montreal.

Q. This flood which you speak of on April 2nd—the peak of that flood isn't shown by the graph?

A. It is not.

Q. And it would be impossible to determine whether the action there was the same as in this flood of last year when the West Branch reached a higher stage than the East Branch at the peak of the flow?

A. The inference is readily drawn that it would not.

Q. I want you to answer my question.

A. What is the question?

Q. That this record does not show whether the West Branch during that flood reached a higher stage than the East Branch?

A. It does not.

Q. You have no knowledge as to how the dams on the East Branch are operated to know when the peak of the current during the day would reach the confluence?

A. I am informed that the upper dam on the East Branch was not in operation in 1924.

Q. Not in operation at all?

A. Not at all.

[fol. 869] Q. How about the sawmill dam?

A. I thought the sawmill dam was used entirely to create a pond for logging and sawing. The floods such as come down the rivers during flood times could not be retained in that pond so as to materially affect the peak flows.

Q. I am speaking now of your daily peak. As I understand the readings at the gauge stations were taken twice a day?

A. Yes.

Q. They were not taken by you?

A. No.

Q. You expect to produce the man who did actually take them?

A. Yes, I suppose so.

Q. You have no personal knowledge of the reading of those figures?

A. No.

Q. And the correctness of those figures depends on the correctness of the readings?

A. Yes.

Q. Those readings were taken at what time during the day?

A. I think the gauge reader himself should be asked that question. He would know better than I.

Q. Would it not be possible and in fact probable, that the operation of the dam up the river might alter the readings of those gauges during the day?

[fol. 870] A. I don't think it would be possible.

Q. If the gates in the dam were opened, there would be a period when the stream would be raised?

A. I don't think it would be possible to operate even the lower dam which is closer to the confluence than the upper one so as to make a difference in the flow between a daily gauging, because I think the flow that would pass out of the pond would be so spread out that it would reach there over quite a long period of time, even though the gate was operated only a very short time.

Q. Wouldn't it be possible with a load on the dam to generate power during the evening?

A. There is no load on these dams. They are not used for that purpose. Neither of the dams up stream generate any power. They are purely storage dams. The log dam is there for the purpose of maintaining a pond and the gates are not opened unless the flood comes on.

Q. What is your opinion as to any possible change in the condition of discharges on either of these dams, or both of them since 1835?

A. I think there has been no material or no material relative difference. I am not at all sure that possibly some little clearing may have affected that slightly, but I doubt whether these streams, where the majority of their drainage area is covered with forests at this time, have had any change in their run-off characteristics for many a day.

[fol. 871] Q. Does the run-off per square mile of the two streams vary to any great extent?

A. Well, I don't know just what you mean.

Q. Is the average run-off per square mile of the drainage area for the West Branch any different from the averoge run-off per square mile on the east branch?

A. They are not far different; during the entire period of last summer apparently the West Branch was discharging a little more per square mile than the East Branch. I think during our records for this year they were almost exactly the same.

Q. Have you your mean discharge sheets for this year as well as the ones that are in evidence for last year?

A. Those are not in evidence, but we will put them in.

Q. Showing you Defendant's Exhibit 358, which is a comparison of the mean weekly discharge from June 28, 1924 to December 6, 1924, I ask you whether or not in these periods when the percent of discharge is shown in favor of the West Branch, there was not, as a matter of fact, a great deal more water being discharged in the West Branch than the East Branch as compared to these lower stages?

A. That is generally true; I don't know but what it is always true.

[fol. 872] Q. So as a matter of fact this percent of percentages is not entirely fair as to the total discharge?

A. It is fair. It is not a weighted average.

Q. If you were to take the total discharge of one stream and the total discharge of the other, the percent in favor of the East Branch would be very slight?

A. It is between five and six and seven percent for that period.

Q. And if you deduct from these one or two periods, you could pick out the period when the percentage would be larger in favor of the West Branch?

A. You could pick out one or two periods if you eliminated all except three weeks of the entire record, you can pick out three weeks when the West Branch is.

Q. By picking out those weeks, the West Branch would be apt to be the biggewt?

A. No sir, by eliminating those three weeks, the East Branch would be shown to be fifteen percent larger than the West Branch.

Q. I mean by picking from three weeks I could show the West Branch as the biggest?

A. I don't think you could because of the fact that the period when our floods were on, it happened that the West Branch discharged the most water.

[fol. 873] Q. Now these figures—the correctness depends on the original gauge readings and upon the computation of the curve and its application to the readings, does it not?

A. Yes sir.

Q. Now the curve by which you reduce the readings to the discharge figure, will you tell us just how the measurements were taken, by what system?

A. You mean our rating curve?

Q. Yes. How did you take the cross section measurements by which you established the rating curve?

A. Mr. Christopherson who made those and prepared the curve is here and I think you better get it first hand.

Q. You did not check those yourself?

A. I didn't make the measurements myself.

Q. From your records at the confluence, would there be any material difference in the total annual discharge between the East and West Branch?

Q. I think from our records that the main Montreal would be from 10 to 15% higher than the records of both last year and this year.

Q. And possibly error in these measurements would be 10% in each measurement?

A. I don't think possible.

Q. How much?

A. I doubt whether the errors in these measurements would exceed, except possibly during the real flood time, would exceed 2% and those errors are compensating.

[fol. 874] Q. The flood time is when those errors occur?

A. Yes, but you must remember that the rate is established not only from one measurement; to be established as an error in our final results, it must be an error on the same side.

Q. If that error were not repeated or compensated and the majority of the discharge occurred over that point in the curve at which that error was made, the error would be greatly accentuated?

A. I don't thinks so.

Q. How would it be compensated for as to that particular point in the curve?

A. In the first place the curve itself would not be a smooth curve if there was any great error in the discharge measurements.

Q. What is the maximum error conceded to be apt to exist in a rating curve as to each measurement?

A. I think it depends on your section.

Q. Is that not generally given in the engineering hand books as three percent?

A. It may be.

Q. And that error could occur in both measurements here and by occurring at a stage at which there was a greater proportion of discharge, it would be accentuated in the total discharge, would it not?

[fol. 875] A. I do not believe in such a large error you would get a curve; that is you would get a jagged line and you would know you had made a mistake, and in addition to that these rating curves are not developed by a single measurement; they are determined by a number of measurements.

Q. How many measurements were taken at the one point? Isn't it a fact that there is only one point at which these measurements were taken?

A. I don't know,—we better leave this to Mr. Christopherson.

Q. What is your idea as to the change in the total anual run-off since 1835? Is it greater or less, or is it about the same?

A. Well, years vary greatly or somewhat. We have no records in this state prior to forty years ago, and at that time we had years which were dry and years when we had floods, so that when you say a great many years ago as compared to this year, it is not possible to make a direct comparison of that kind.

Q. Do you thing though, as a general condition there is less or more run-off, the average year in these times as compared with the average year about 1835?

A. I am inclined to believe that in this district that it is not far different—I don't think there is any information in this state upon which we could arrive at a conclusion that our streams are flowing less or more during normal years than they did many years ago. [fol. 876] Q. You spoke in your direct examination of the rainfall records of this district, indicating that there was a greater fall on the West Branch of the Montreal than on the East Branch,—where are the stations?

A. That was for the rainfall causing the flood the fore part of August. I used for that comparison on the Michigan side Berglund, Iron River, Ewen; and used on the Wisconsin side, Ashland, Florence and Rush Lake; and I used in addition to that the rainfall at Ironwood.

Q. Of all those stations, the Ironwood station is the only one in the drainage area of the Montreal River, is it not?

A. That's all.

Witness excused.

At this point an adjournment was taken to Friday, July 31st, 1925, at 9 o'clock in the forenoon, at the Court House, at Hurley, Wisconsin.

[fol. 877] July 31, 1925, at 9 A. M. the hearings recommenced at Hurley, Wis., at the Court House. Parties present as before.

Mr. ARNE JOHNSON, being duly sworn as a witness on behalf of the defendant, testified as follows:

Direct examination by Mr. Rieser:

Q. Mr. Johnson, where do you live?
A. River Branch, Wisconsin.
Q. You have a farm down there?
A. Yes.
Q. Right alongside of the West Branch of the river?
A. Both sides.
Q. And how long have you lived down there Mr. Johnson?
A. Eight years.
Q. And that's right near the Montreal River and the West Branch of the Montreal, is that right?
A. Yes, sir.
Q. And have you been employed by Mr. Christopherson here to read some gauges in the river?
A. Yes, sir.
Q. In both rivers?
A. Yes, sir.
Q. How long have you been doing that kind of work?
A. Last summer six months and this summer four months.
Q. Last summer six months and this summer four months?
A. Yes, sir.

[fol. 878] Q. And how near to your place are these gauges?
A. The West Branch is right in on my land and the other one about six hundred feet—something like that.
Q. And how often do you read those gauges?
A. Twice a day.
Q. Always?
A. Yes, sir.
Q. Every day?
A. Yes, sir.
Q. What times of the day do you read them?
A. Seven o'clock in the morning and seven o'clock in the evening.
Q. Is that exactly seven or around about the hour of seven?
A. Around about seven.
Q. And are you always careful to read those carefully?
A. Yes, sir.
Q. And do you keep records of your readings?
A. Yes, sir.
Q. And are those records sen*d* then by you to Madison?
A. Yes, sir.
Q. How often?
A. Once a week.
Q. And do you keep a book or record of your own for your own convenience too?
A. In books I get from Madison.
[fol. 879] Q. Your weekly report you send to Madison, is that on a card of some kind?
A. On a card—one card for each river.
Q. That's all.

Cross-examination by Mr. Sawyer:

Q. Mr. Johnson, are you familiar with maps at all? Can you tell by looking at that, what that is a map of? I will place your house right here for you—you are a little further up here in this corner (indicating on blue print).
A. This is the forks here.
Q. This is Exhibit 120, to which he is referring to locate the forks. You notice this stuff here Mr. Johnson, is that about the position of the jam in the mouth of the East Branch in relation to the forks?
A. Yes.
Q. Has there been any change in the East Branch as to where it run during the time that you have been there?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial and improper cross examination. This witness has been produced only to testify as to records. If counsel wishes to make him his own witness to testify as to the mouth of that river, he may. It is improper cross examination.

[fol. 880] By Mr. Sawyer:

Q. Has there been any change in the mouth of the East Branch while you have been there?

Mr. Rieser: Same objection.

A. Yes what I showed you when you were there.
Q. What happened there Mr. Johnson?

Mr. Rieser: Same objection.

Mr. Rieser: Will you show on the record that if it is ruled this is improper cross examination you will make him your witness?
Mr. Sawyer: We would not want to do that now.
Mr. Rieser: I shall renew the objection and instruct the witness not to answer. I will ask the Commissioner to make that of record and that the question be cited to the Supreme Court as is usual in such cases.
Mr. Sawyer: I will decide that before we get through with the examination.

Mr. Sawyer: If you will just tell us again Mr. Johnson, what happened there?

Mr. Rieser: Same objection.

Mr. Sawyer: You said the river washed through there and made a new channel?

Mr. Rieser: Same objection.

A. Yes.
Mr. Sawyer: When did that happen?

Mr. Rieser: Same objection.

Mr. Sawyer: How many years ago?
[fol. 881] A. Three or four years ago, I don't remember.
Q. You don't know whether it was three or four, but you know it was about that?
A. It was something like that and maybe more.
Q. There is an old stump that stands up straight. I showed it to you in the picture here Mr. Johnson—will you just look at this picture?

Mr. Rieser: Same objection.

Mr. Sawyer: You see this old stump, you know where it stands in the forks?

Mr. Rieser: Same objection.

A. Yes sir.
Mr. Sawyer: Does that stand where it used to be before the washout? You can see the old log jam back there. Here is the stump

and here is that little island. If you will just indicate on the picture where the land was washed out?

Mr. Rieser: Same objection.

Mr. Sawyer:

Q. Can you show me there where the land was that washed away?

Mr. Rieser: Same objection.

Mr. Sawyer: Can you point it out Mr. Johnson?

Mr. Rieser: Same objection.

A. I am not sure of that picture; I can't see it.
Q. You know where this big stump is, don't you?

Mr. Rieser: Same objection.

A. Yes sir.

[fol. 882] Mr. Sawyer:

Q. You saw that in the river day before yesterday?

Mr. Rieser: Same objection.

A. Yes sir.
Mr. Sawyer: And that's where the land used to be that washed out?

Mr. Rieser: Same objection.

Mr. Sawyer: You remember that?

Mr. Rieser: Same objection.

A. Yes, I guess so.
Mr. Sawyer: All the while you have been there Mr. Johnson, you lived in the same house alongside of the West Branch just above the forks?
A. Yes sir.
Q. Mr. Johnson, again referring to Exhibit 120, this map, can you indicate on this map about how far back this bank of the stream washed, when it washed out?

Mr. Rieser: Same objection.

A. I don't know.
Mr. Sawyer: Was it back above the log jam?

Mr. Rieser: Same objection.

A. I couldn't tell.
Mr. Sawyer: Isn't it a fact that it washed alongside of the log jam—washed out quite a little, and it was the jam that made it wash?

Mr. Rieser: Same objection.

A. I can't tell.

Mr. Sawyer: This is the position of the gauge on the East Branch here (indicating)?

[fol. 883] Q. Is that where you read the gauge on the East Branch?

A. Yes sir.

Q. How far is it from there to where the bank began to wash out?

A. Not very far; I don't know just how far.

Q. How far would you say it is? How many feet from where you read the gauge down to where the two rivers come together—your best estimate on that?

A. About three hundred feet.

Q. This washout was before you began to read the gauge or was it during the time you were reading the gauge?

Mr. Rieser: Same objection.

A. Before.

Mr. Sawyer: When the gauge was put there, the washout had already occurred?

Mr. Rieser: Same objection.

A. Yes.

Mr. Sawyer: Mr. Johnson, look again at this exhibit, Defendant's Exhibit 120 in relation to this big island just below the forks, you know where that island is?

A. Yes sir.

Q. I ask you whether or not before the washout here, the water mostly went down on this side of the big island?

Mr. Rieser: Same objection.

A. On both sides before and the same thing now.

Q. When the water was very high, there would be lots of water on this side of the island before, wasn't there?

[fol. 884] Mr. Rieser: Same objection.

A. Yes.

Mr. Rieser: In view of the examination of the defendant's witness here by way of cross-examination, I want to ask a few questions.

Mr. Sawyer: We wish to reserve the right of objection to all these questions for the reason that we have not made this man our witness and Mr. Rieser is not entitled to cross-examine.

Examination by Mr. Rieser:

Q. The water on the west side of the large island, where did that come from?

Mr. Sawyer: Objected to for the reason that the witness has not qualified himself to answer the question, improper question without foundation.

Mr. Rieser: In view of that objection, I will not press the answer.

Witness excused.

[fol. 885] F. C. CHRISTOPHERSON, recalled by Mr. Rieser on behalf of defendant, testified as follows:

Direct examination by Mr. Rieser:

Q. Mr. Christopherson, have you had a further study of the stream flow made during the season of 1925 in the vicinity of the confluence of the West Branch and the Montreal River?

A. Yes sir.

Q. And in connection with that study, have you prepared the records as to the daily flow along both rivers?

A. Yes sir.

Q. I wish you would produce those?

A. Witness produces records.

Q. Showing you now Defendant's Exhibits 348-a and 348-b, I will ask you whether those are the computations you have just referred to?

A. They are.

Q. And they should show us what?

A. They show the daily discharge in second feet on the West Branch of the Montreal river above the mouth and the daily discharge in second feet of the Montreal River above the mouth in second feet.

Q. And those are the records right near the gauging stations established near the confluence of the two rivers?

A. Yes sir.

[fol. 886] Q. Now did you also prepare computation showing the weekly average flow of both streams at the confluence or in the vicinity of the gauging station near the confluence?

A. Yes sir.

Q. Showing you now Defendant's Exhibit 358-a I will ask you whether or not that shows the comparison with the mean weekly average of the two rivers at or near the gauging stations referred to?

A. Yes, the mean weekly discharge.

Q. And referring to the last column, I will ask you to explain that?

A. The last column is the per cent of the Montreal discharge. Well, it is the Montreal discharge divided by the West Branch discharge.

Q. In other words it represents the percentage that the discharge of the Montreal river is to the discharge on the West Branch of the Montreal River?

A. Yes sir.

Q. And is produced by comparing the first two columns of the figures of the exhibit, is that right?

A. Yes sir.

Q. And the first column entitled "Week ending," what does that refer to?

A. That refers to the week on which those flows were maintained. The week ending means the week ending on the date that is mentioned there.

Q. Now, have you also prepared a monthly—a record of the [fol. 887] monthly flow?

A. Yes.

Q. Showing you now Defendant's Exhibit 358-b and 358-c, I will ask you what they are?

A. They are the monthly discharge of the Montreal River above the mouth on the West Branch for the period June 26, 1924,-July 27, 1925, and monthly discharge of the West Branch of the Montreal River above the mouth for the same period.

Q. And that monthly discharge covers only the months during which you were taking your readings?

A. Yes sir.

Q. And those readings began when?

A. Began on June 26, 1924.

Q. And ended in 1924 when?

A. December 8, 1924.

Q. And began in 1925 when?

A. April 2, 1925.

Q. And included up to July 27th?

A. Included up to July 27th.

Q. And when you say above the mouth, where do you refer to with reference to the gauging stations near the confluence, as to where this discharge is taken? In other words, does this represent again the discharge near the gauging station?

A. Yes.

Q. Near the confluence of the two streams?

A. ——.

[fol. 888] Q. Now have you also prepared an average for the two seasons—an average flow of the two seasons?

A. Yes, a comparison of mean monthly discharge of the two streams.

Q. At the same point you have just referred to?

A. Yes.

Q. Showing you Defendant's Exhibit 358-d, I will ask you whether or not that shows that comparison?

A. Yes it does.

Q. And the column of percentages what does that refer to?

A. The column of percentages, the last column on the sheet refers to the per cent which the Montreal River discharge is of the West Branch river discharge.

Q. And at the foot of that you have "Whole period of record"; what does that refer to?

A. That refers to the whole period in which we have had records.

Q. Under the first column you have "Montreal, above West Branch of Montreal 61.3," what does that mean?

A. That's the mean discharge for the same period of record for the Montreal above the mouth.

Q. And when you say "Whole period of record," you refer to the period in 1924 and period in 1925?

A. Yes sir.

Q. And the item 56.6, what is that?

A. That refers to the mean discharge of the West Branch of the Montreal above the mouth for the whole period of record.

[fol. 889] Q. And the item of 108.3 is the same basis of comparison as the items immediately above are for the various months referred to?

A. Yes, sir.

Q. Have you also computed that discharge on the square mile basis?

A. Yes, I have.

Q. And will you give us that?

A. The per square mile discharge of the Montreal River above the West Branch of the Montreal River for the whole period of record is .562 second feet and the per square mile discharge on the West Branch of the Montreal River above the mouth for the whole period of record is .590 second feet per square mile.

Q. Have you also prepared the hydrograph covering the period of your study in 1925?

A. Yes, sir.

Q. Showing you now Defendant's Exhibit 357-a, I will ask you whether or not that is the hydrograph covering the period just referred to?

A. Yes, sir.

Q. Calling your attention now to peeks in April, 1925, and particularly to the first peek in April, 1925, which seemed to be about its height the early part of April. Are you able to say from your records at Gile station, whether or not the West Branch of the Montreal River ever was as high at the confluence as the Montreal River was?

[fol. 890] Mr. Sawyer: Objected to until the records of the station at Gile are introduced or offered.

A. We haven't computed the records at Gile.

Mr. Rieser: You are unable to say then?

A. I am unable to say.

Q. Now have you made any recent studies of Spring Creek near the confluence of Spring Creek with the Montreal river?

A. Yes.

Q. Have you determined the flow there at the time of those studies?

A. Yes, sir.

Q. What did you find?

A. I found on July 27, 1925,—I found a discharge of 1.46 second feet flowing at the mouth of Spring Creek.

Q. What can you say as to the proportion of that flow to the drainage area?

A. Spring Creek is with such a discharge contributing a material part of the Montreal river.

Q. And when you say "a material part," do you say that in the light of the flow in any other streams?

A. Yes, it is contributing more than its share according to the drainage areas.

Q. Now compared to your previous study, how did the size of Spring Creek compare on July 27th?

A. It was less than it has been at the other two times.

Q. Is that true of all the streams in this section of the country?

[fol. 891] A. Yes, it is the lowest that I have ever seen it.

Q. And has that condition prevailed for some length of time?

A. Yes, they have been unusually dry this summer.

Q. Has that been your experience generally throughout the state?

A. Yes, this part of the state.

Q. You have quite a number of gauging stations throughout the state?

A. Yes.

Q. About how many?

A. About forty or forty-five in Wisconsin.

Q. Operated on different streams?

A. Yes.

Q. In what sections of the state principally?

A. All parts of the state.

Q. Now did you notice any springs along the course of Spring Creek which were discharging any considerable amount of water here on your last study?

A. I did not go up the river on my last visit.

Q. Have you very recently noticed those?

A. I saw some springs on October 30, 1924 on my visit at that time.

Q. Now are there any feeding streams leading into Spring Creek somewheres up from the confluence with the Montreal River?

A. Yes.

Q. How many?

[fol. 892] A. I have noticed two.

Q. And about how far up from the confluence?

A. I should say two and a half miles.

Q. And did you see those on July 27th?

A. Yes.

Q. And what can you say as to whether they were discharging into Spring Creek at that time?

A. They were discharging water at that time.

Q. And was Spring Creek alive—was it flowing water when you were making your study?

A. Yes.

Q. And was it up two and a half miles, was it also a live stream there near the confluence of the two streams?

A. No, below the pumping station, it was dry.

Q. Near the confluence of those streams flowing into Spring Creek, was it a live stream there?

A. Yes, it was a live stream there.

Q. Now you have said there was a dry area in the bed of Spring Creek, where was that?

A. It was immediately below the bed of the pumping station.

Q. When you say that, what pumping station do you mean?

A. I mean North Ironwood Pumping Station.

Q. And immediately above the pumping station?

A. There was considerable flow.

Q. And what in the immediate vicinity of the pumping station, whether or not the flow is stopped there?

[fol. 893] A. The water is diverted into dikes, which dikes supply the wells, from which water is pumped to Ironwood and the pumps were evidently using the whole flow at that point in the stream at that time.

Q. And from that fact, are you able to say whether or not the Ironwood pumpage is surface water?

A. Yes.

Q. And are you able to say whether or not but for the diking, that water would flow on down into the live part of the stream?

A. Yes.

Q. About what was the flow above the pumping station, have you any idea?

A. I did not measure it.

Q. Now in your stations that you maintain on the various streams in the state, what is the practice as to the frequency of your measurements?

A. It depends considerably upon the station. If the station has a permanent control, we take one measurement a year. That's all we take, and if that checks the rating curve, we consider the rating curve all right for that season's records.

Q. Now has that been your practice in the two streams just referred to, or have you made measurements there more often?

[fol. 894] A. Yes, we have made measurements more often in those two streams.

Q. And what about your gauge readings, what is the frequency of those in your various stations?

A. Well some of them are once a day and some are twice a day depending on whether there is any regulation about the gauging station or not.

Q. And your readings at the confluence are how often?

A. Twice a day.

Q. And what can you say about the readings at Gile?

A. The readings at Gile were taken once a day when they were taken and our observer up to July 14th, skipped a great many days, when he didn't read the gauge at all.

Q. On what days of the week particularly?

A. Well Sundays and some other days.

Q. Up to July 14th.—did you have a different arrangement you made since that time?

A. On July 14th, we hired a new observer.

Q. Prior to that time the observer was furnished as an employee of one of the mines?

A. Yes sir.

Q. The main Montreal readings, how often are they taken at Ironwood?

A. They were taken twice a day.

Q. Right along?

A. Yes.

[fol. 895] Cross-examination by Mr. Sawyer:

Q. Just what is your connection, Mr. Christopherson, with the taking of your readings? What is your position in the matter? Are you employed by the state of Wisconsin or the Federal Government?

A. I am employed in the Federal Civil Service.

Q. Any portion of the salary paid by the state of Wisconsin?

A. It is paid by the co-operating party.

Q. Were you yourself in complete charge of the stream flow measurements, or are you supervising the installation of the gaugings and the taking of the figures and are those checked by some one above you?

A. I check them myself.

Q. You check them yourself?

A. Yes sir.

Q. Are they in any instance checked and revised by the District Engineer?

A. They may be.

Q. Isn't it a fact that before these figures will be published finally, that the District Engineer will take them and revise them if he finds anything out of the way?

A. Not in this case.

Q. He probably will in any other case?

A. I check them.

Q. You have checked them yourself?

A. Yes.

[fol. 896] Q. The district engineer has not checked these figures as to the thoroughness?

A. No.

Q. What is the reason for departure from practice in this particular case? This is being done for the benefit of the state of Wisconsin, and not with any idea as to the general practice of the government in investigating these questions?

A. Well, I have—that is part of my work—that is what I have been employed for.

Q. As I understand you Mr. Christopherson, you yourself have checked these figures and they have not been checked by any one else above you?

A. No.

Q. And you are satisfied that they are O. K.?

A. Yes.

Q. You have checked them yourself and found them O. K.?
A. Yes, sir.
Q. Now you yourself don't check the gauge readings?
A. No.
Q. So that the correctness of your figures would depend on the accuracy of the gauge readings, would they not?
A. I check the gauge readings when I make the measurements.
Q. And that's the only time?
A. Yes sir.
Q. That much of a check you have on the gauge readings?
A. Yes.
[fol. 897] Q. Is there any other method of check on the gauge readers?
A. Yes there are. For example, if you come there, you can ask what the reading is at each place, and later you will see the place and can check them up.

Mr. Rieser: And have you done that from time to time?
A. Yes sir.
Q. At the confluence?
A. Yes.

Mr. Sawyer: Have you the records for the Ironwood and Gila stations for the season 1925?
A. No, not computed.
Q. You have the measurements of the gauge height?
A. Yes.
Q. Will you submit those to Mr. Macey?
A. I have no objection.

Mr. Rieser: I have none.

Mr. Sawyer: Now Mr. Christopherson, going back to the Spring Creek territory, which you say is dry for some distance below the reservoir or dikes,—how long a distance from the dikes is it to where it becomes a stream again?
A I couldn't say exactly.
Q. Well, your best estimate—just a mile or ten miles or two miles or a half a mile?
A. It is probably dry up to the place where the feeders or branches are.
[fol. 898] Q. It is dry to within two and a half miles of the mouth or about there?
A. Yes, probably.
Q. During that space where it is dry, where the pumping station is, isn't it a fact that the bed of the stream is a gravel bed?
A. Yes sir.
Q. And isn't there in a gravel bed a great deal of water drained through the drainage district below the surface of the gravel?
A. No.
Q. You don't think there is any sub-surface drainage below the gravel?
A. No.

Q. You are satisfied that the water flows on the surface and none of it below the surface?

A. Very little would flow under the stream bed.

Q. Have you ever seen the condition where in low or normal stages the entire discharge of the river was flowing below normal surface?

A. Not in this country. I haven't seen it at any place.

Q. Are you satisfied that in this area, that you say is dry, that there was no sub-surface drainage going on at that time?

A. I have not investigated that.

Q. How deep are the wells from which the city of Ironwood pumps?

A. I have no knowledge of that.

[fol. 899] Q. Isn't it a fact that these dikes are so constructed as to hold the water on the surface and let it seep through?

A. Yes.

Q. Do you think that all the water that is pumped from those wells would be surface water?

A. Yes, I think it would. It would otherwise go down the stream.

Q. It would all be flowing on the surface, except for the fact that it is held there by the reservoir?

A. Yes sir.

Q. You don't think there is any advantage in digging a well?

A. Yes, I think there is an advantage.

Q. What is the advantage?

A. They get down under the ground water table and they have a reservoir in the ground water table, which could be pulled down in dry season times.

Q. But you are satisfied that the supply of water is no greater than if they merely took it off the surface?

A. No, I don't think so.

Q. You mean by that that you do not think there is any greater supply below the surface than there is on the surface?

A. What do you say?

Q. Your answer wasn't exactly conclusive—you mean by digging the wells, they don't procure any greater supply of water than they would if they took it off the surface?

A. No.

[fol. 900] Q. For what portion of the length of the East Branch of the Montreal, or the main Montreal, as you call it, does the flow from Spring Creek affect it?

A. It affects it from—about two and a half or three miles.

Q. What proportion of the East Branch would that be?

A. I have not determined the entire length of the East Branch.

Q. It would be a relatively small proportion of the East Branch?

A. Yes sir.

Q. Isn't it a fact that from your figures, the East Branch above the confluence with Spring Creek, would average much smaller than the West Branch over a similar length?

A. I have no records there; I wouldn't know about that.

Redirect examination by Mr. Rieser:

Q. You have been asked about checking these records that you have produced here. Do you follow that practice with other records?
A. Yes sir.
Q. And other readings that are taken?
A. On other streams you mean?
Q. Yes?
A. Yes.
Q. And without having any one above you check them over?
A. Yes.
Q. And they are accepted by the Department in that way after [fol. 901] your check?
A. Yes, I have done so often.
Q. You stated there was no greater supply of water furnished by those wells than could be taken from the surface. What is the effect of having the wells there?
A. The effect of having the wells there is that you go into beneath the ground water table and the surface water is filtered as it goes down into the wells.
Q. And what about producing a reservoir for dry seasons?
A. Yes, that is an advantage of the wells.
Q. Insuring a more normal water supply?
A. Yes sir.
Q. Did you also consult the city engineer of Ironwood as to the depth of those wells?
A. Yes, he said they were from twenty to sixty feet I believe, or twenty to forty, I don't remember now what he said.

Witness excused.

Mr. Rieser: We wish to offer all the exhibits referred to.

At this point an adjournment was taken to July 31st, 1925, at the Court House at Hurley, Wisconsin.

[fol. 902] Pursuant to adjournment, the taking of further testimony in the foregoing entitled cause was continued on this 31st day of July, A. D. 1925, at Hurley, Wisconsin, at the Court House, before Mrs Margaret M. Hoit, Special Commissioner. Counsel were present as before.

The defendant to sustain the issues upon its part, offered the following evidence, to-wit:

Mr. CHARLES HALBERT, being recalled by Mr. Rieser, testified as follows:

Mr. Rieser: Mr. Halbert, yesterday you testified that part of the pumpage discharge from the Montreal mine entered the West Branch of the Montreal River below the Gile station. Did you make a check of that since that time?

A. Mr. Rupp and I made the check.

Q. What did you find?

A. We found that the water coming in from the Montreal Mine from the West into the West Branch of the Montreal River comes in a half a mile or more above our gauging station.

Q. So that your gauging station—the readings taken there would reflect the pumpage as well as the run off from the river itself?

A. Our gauging station at Gile and the records there produced reflect the flow and all of the pumpage from the mines into that river.

Q. Now, there are some further corrections as to another mine [fol. 903] that you want to put in?

A. Yes, we learn now that the Ashland Mine, the water from which is pumped by the Oliver Iron Mining Company and which entered the main Montreal River, has been out of commission and the pumps have been shut down since the fore part of April. That includes all, or substantially all of the period during which we have records at the confluence for 1925, and it reduces the amount of pumpage into the main Montreal River by 150 gallons per minute normally.

Q. Now how does the pumpage from the various mines—how does that change from season to season?

A. As I understand it, it doesn't change materially from year to year. The pumpage is most during the months of April, May and June and is least during the months of February and a part of March before the break-up. It reaches its lowest stage during the last part of the winter.

Q. And how does that compare with the flow in the various rivers?

A. The flow in the rivers follow that same cycle. The flow in our rivers is usually the lowest during February and that part of March before the spring break up and that's true on these stations as a usual thing on the Montreal River.

[fol. 904] Q. Mr. Halbert, calling your attention to Plaintiff's Exhibit 171, and particularly your attention to the creek or the little stream marked "Creek" coming into the West Branch, what can you say as to the location of that creek on the ground?

A. Well, there is a depression through there, which leaves the East Branch above the log jam and enters the river again further down stream somewhat than is shown on this sketch.

Q. And wherewith reference to the channel on the west side of the large island?

A. There is a depression coming in immediately upstream from that channel.

Q. And that depression that you refer to, is that the depression that extends around back up around the log jam?

A. Yes, that depression extends around and enters the East Branch above the log jam.

Q. Now, calling your attention also to the southeasterly end of the large island, what can you say as to the location of that on Exhibit 171 and the actual location with reference to the channel

on the so-called East Branch of the Montreal River shown on that exhibit?

Mr. Sawyer: Objected to as this witness has not shown that he knows anything about the condition of the confluence at the time that sketch was made.

[fol. 905] A. The present location of the south end of the large island as shown on this Exhibit 171 is about an inch, or on the scale must be 100 feet north of the projection which comes out into the East Branch and has been referred to as having been cut away in the testimony. The present south end of that island is almost in a direct line east and west from East Branch Channel and the south end of that island is substantially as far south as the stump of the tree which is located in the East Montreal.

Q. That is the large stump that has been referred to on Defendant's Exhibit 122 in Picture "A"?

A. Yes.

Q. And what can you say also with reference to the location of the south point of that island and the so-called "gravel bar" on the north end of the gravel bar at the confluence?

A. At the stages of water which the Exhibit 120A shows, these are in about a straight line East and West.

Q. Now if there had been any washing away of that large island between the time of the making of Plaintiff's Exhibit 171 and the making of Exhibits 120 and 12[illegible] the present time, what would be the effect of this distance be[illegible]een the north point just referred to and the south end of that island?

A. That would not be of course on an east and west line.

[fol. 906] Cross-examination by Mr. Sawyer:

Mr. Sawyer: Further comparing Defendant's Exhibit 171 with Defendant's Exhibits 120 and 120A, you are familiar with the testimony of the Michigan engineers that 120, the outlines are the bank line rather than the water line?

A. Yes sir.

Q. You were present at the making of Exhibits 120 and 120A?

A. I was present at the making of part of it.

Q. This most southerly extremity of the large island as we have referred to, the land there is the water line not the bank line?

A. I think it has been testified here before that the water line is shown here and also under two different stages of flow.

Q. I speak now of the water line as distinguished from the line where there is a high bank and timber?

A. Yes, that's true.

Q. Do you recollect whether or not within this water line of Exhibits 120 and 120A, there are any depressions?

A. No, I think there were none. I think the south end of that island is well above the water level.

Q. But do you recollect whether there are any channels across it?

A. I think not.

[fol. 907] Q. Are you clear as to that end of it?

A. Yes, I feel very sure that the head end of the big island is well above.

Q. Up to the point shown as the water mark?

A. Yes, up to the point shown as the water line.

Q. Isn't it a fact that there is considerable wash gravel between the island and the point shown there?

A. No, I think not.

Q. Doesn't the photograph show that?

A. No I think not.

Q. Would your water line run out around that stump (referring to panorama)?

A. I would be inclined to doubt it.

Q. By looking at the head of the big island in Panorama #1, we notice that the island is well above the low water stage, and has some stumps but no timber on it?

A. Yes.

Q. Do you remember whether this portion of the island—that is the south end of the island is below the main body of the island?

A. I don't think it is.

Q. Then far below the island has some timber?

A. Some live timber.

Q. Some stumps also?

A. Yes.

[fol. 908] Q. Now Mr. Halbert, you spoke of discontinuing the pumping from the Ashland Mine. Did you also look into the question to see whether the water formerly pumped from the Ashland mine had to be pumped from other mines by reason of that discontinuance?

A. Yes sir.

Q. The question I just asked was whether or not the stopping of pumpage from the Ashland increased the pumpage in surrounding mines?

A. I don't think so.

Q. I asked you whether you investigated that?

A. No, the Ashland mine is filling up now with water.

Q. The Ashland mine has been filled to the seventeenth level?

A. I am just now informed by your engineer Mr. Rupp that that it will fill to the seventeenth level and at that stage it will run into the mines owned by the Oliver Iron Mining Company.

Q. Have you ascertained whether or not during the time it is filling to that level, any proportion of the water which would otherwise be pumped from that mine is being pumped from other mines?

A. I am just now informed by Mr. Aldrich there, who has investigated it, that the water which was formerly pumped into the Oliver Iron Mining Company's mines out of the Ashland is now not being pumped at all and Mr. Aldrich is here.

[fol. 909] Q. And my question, does that fact increase the pumpage in the other mines?

A. I think the record now shows the mine is filling up.

Q. You can answer my question as to whether or not the stopping

of pumpage in the Ashland has increased the pumpage in the other mines?

A. No, I have not investigated.

Witness excused.

Mr. H. R. ALDRICH, recalled as a witness on behalf of the defendant, testified as follows:

Direct examination by Mr. Rieser:

Q. Mr. Aldrich, have you made the investigation as to whether the stoppage of the pumping in the Ashland mine has increased the pumpage in other mines?

A. I have gone that far, yes.

Q. What is your conclusion?

A. I am told by the pump man—that is the source of information, of course, which they are handing along, the Oliver people see no effect whatsoever of the shutting down of the Ashland mine. Those pumps were stopped on April 27th. At that time they had decreased their pumpage, which has been running a peak load for about four months—been a peak load on account of having opened into a big open cavity that was full of water. They were pumping [fol. 910] day and night at big pressure and they dropped their pumping down to 150 gallons. That was about what it was before they hit into this vug.

Q. And it is a fact that the mine is filling up?

A. Yes, it is.

Cross-examination by Mr. Sawyer:

Q. Mr. Aldrich, you are familiar with the testimony of Mr. Halbert and Mr. Hotchkiss, that this mine pumpage is all surface water?

A. I am familiar with the testimony I believe,—whether it is all I can't say.

Q. What is your own opinion?

A. My own opinion is that practically all of the water was at one time surface water. Some of them fill more rapidly than others.

Q. What is your opinion as to whether the water that was pumped from the mines, if it was not pumped, would in some way find its way back into the stream?

A. My opinion would be that certain portions of that would find its way into the West Branch or East Branch or further east into the Black.

Q. Will you explain why, water that is some 2,000 feet below the bed of a stream would come up and get into the stream?

[fol. 911] A. Under hydrostatic pressure, rising under old dikes and fissures, wherever channels are available.

Q. You are satisfied that all this water which is pumpage from the mines would come up in that form into the river?

A. I am not satisfied that all of it would, in a brief period of years, find its way into either one of these two streams. As I said before, I think it is going down into these dykes and it may arise in one river or into another.

Q. Or it may pass off into a lake below ground?

A. You are speaking about Lake Superior?

Q. Yes?

A. Some of it may get back into the lake.

Q. This subterranean lake which you speak of, which they have just struck in the Oliver mines, how many years do you think it has been there?

A. I think you are mistaken; I didn't speak of any subterranean lake.

Q. You spoke of the cavity——

A. That was in the Ashland.

Mr. Rieser: The vug you referred to.

A. This cavity was in the Ashland mine—Mr. Sawyer referred to it as being in the Oliver.

Mr. Sawyer: The water that was in this vug is not of recent accumulation. That has undoubtedly been there many years?

A. It may have been.

[fol. 912] Q. And the extreme pumping of that, they are not reducing the surface water at all, they are taking subterranean water which has been there for years?

A. Except that that water which gathered, had lost water very gradually and when they finally holed into it, they got it all at once.

Mr. Rieser: With the water below the level being pumped away gradually, would there also be a tendency to increase the seepage from the surface?

A. Due to that pumpage?

Q. Due to that pumpage?

A. Insofar as the pumpage drained local reservoirs, which were then opened for the recatchment of further percolation from the surface.

Mr. Sawyer: Mr. Aldrich, you are familiar with the situation at Wakefield where the mine is under a lake?

A. Yes, to some extent.

Q. From that it is apparent that there is very little seepage from that lake into the mine?

A. I am not that familiar.

Q. You know the lake is there above the mine?

A. I know the lake still exists there; further than that, I don't know.

Q. Are you familiar with the desert country, where they find lots of water in mines?

[fol. 913] A. That's variable; in some they do and some don't.

Q. Are you familiar with the gravel beds in the bottom of a drainage area, where there is found to be considerable sub-surface flow?
A. Yes.

Witness excused.

HAROLD F. CONNORS, being produced as a witness on behalf of the defendant, being first duly sworn, testified as follows:

Direct examination by Mr. Rieser:

Q. Mr. Connors, where do you live?
A. Hurley.
Q. And do you hold any official position in the city of Hurley?
A. Principal of the High School at Hurley.
Q. How long have you been principal?
A. Six years.
Q. Are you familiar with the school population in the School District No. 1 of the City of Hurley, and other outlying communities?
A. I am.
Q. And what does School District No. 1 comprise? What territory?
A. It comprises the city of Hurley, the City of Montreal, the town [fol. 914] of Kimball, the town of Carey, town of Pence.
Q. Does it include the entire town of Kimball? Show you Defendant's Exhibit 370 and ask you whether or not that shows the limits of School District No. 1?
A. Yes sir.
Q. I call your attention that the legend says: "The hatched boundaries are in District No. 1." I notice that the town of Kimball is not hatched; is that also included?
A. I think it is.
Q. Do you know that District No. 1 has some schools it operates in the District No. 1?
A. Yes sir.
Q. Have you recently taken a census of School District No. 1?
A. I have.
Q. And what does that census show as to the children of school age in the various parts of the district?
A. In the City of Hurley there are 1,206; in the City of Montreal, 761; in the town of Pence, 160; in the town of Kimball, 344; in the town of Cary, 89.
Q. Have you any children in the town of Oma—that is also included?
A. In this section there are only three or four families and we transport them in here every morning.
[fol. 915] Q. Now, do you have schools on both sides of the West Branch of the Montreal?
A. We have.

Q. Now I would like to have you point out the locations of the various schools?

A. On the east side of the river there is the Hurley High School and one grade school; Cary location, which is a part of Hurley, has one grade school. In the City of Montreal, the east side of the river, there is the Gile school and on the West side of the river the Montreal school. In the town of Carey, there are two schools, South Cary #1, and South Cary No. 2. In the town of Kimball there are three schools, the Meadville School, the Defer School and the Hinkle School and the River Branch School. In the town of Pence there is one school.

Q. In those schools you have referred to, are they identified on the map by any markings?

A. They are. Each one is marked.

Q. Named and marked?

A. Named and marked.

Q. Now if the part east of the river were taken out of the School District, what effect would it have in the school facilities west of the West Branch of the Montreal river?

A. It would leave the River Branch and Hinkle School in the town of Kimball, which is a part of School District No. 1, with [fol. 916] about seven sections of land to support two schools.

Q. And what about the town of Pence?

A. It would divide the town of Pence and leave the Pence School with valuation much decreased. It would divide the city of Montreal, decreasing its valuation and it would leave the city of Hurley and Town of Carey with about 1,206 children to support a High School and three grade schools, the South Side School in Hurley, the Carey School and the Gile School and four rural schools. These rural schools are in the town of Kimball, and they have never been able to support their own schools. At the present time Hurley Joint District No. 1 is spending $4,000 more on those schools more than they received in taxes.

Q. Now you speak about the high school in the city of Hurley. At the present time, does that furnish high school facilities for the entire district?

A. It does.

Q. And how are your schools west of the West Branch of the Montreal as to size and capacity, to take care of the high school pupils from that section?

A. They have no facilities to take care of pupils of high school age.

Q. Is it a fact that at the present time there are steps under way to build a new graded school west of the West Branch?

A. Yes.

[fol. 917] Q. And why are you building that at the present time?

A. Well, the City of Montreal has grown so much with Gile, that the people are demanding more facilities for their children of school age, and it is becoming expensive to transport these people by street car into Hurley every morning and take them back every night.

Q. And at the present time you are transporting the children of grade school age into Hurley?

A. Yes, in fact from every rural school also.

Q. Do you know how many teachers are employed by the entire district?

A. About fifty-one.

Q. And that includes high school and grade school teachers?

A. Yes sir.

Q. And has the high school in Hurley been built and equipped with the plan of taking care of the entire district?

A. I think it has.

Q. And does the High School get a considerable number of pupils from west of the West Branch?

A. It does.

Q. How large a high school is there in the city of Hurley?

A. Last year we had a total school enrollment of 311, and finished the year with 289.

Q. Are you able to say what part of that high school population came from west of the West Branch?

A. From Pence we get about 20; and from the city of Montreal about 120; from Defer, that is east of the Branch.

[fol. 918] Q. Do you get any from the Hinkle School or the River Branch School into the High School?

A. We don't.

Q. How large a building is your high school building?

A. Well, we have facilities for about 350 in the high school besides there are grade rooms down stairs accommodating the kindergarten up to the 8th grade.

Q. How many rooms?

A. 26, including the gymnasium.

Q. Then the so-called South Side school is located right near the court house here?

A. Yes sir.

Q. And how many rooms has that?

A. That school was just remodeled the past winter, and I have not been in it since it was remodeled.

Q. The new school is to take care of what?

A. The pupils from Gile and the city of Montreal.

Q. Your transportation from the various schools you have just referred to is taken care of by some resident in the vicinity of those schools?

A. A man from Hurley transports the pupils from Pence and a man from Hurley also transports the pupils from Oma and from Meadville.

Q. And what is the fact that Oma in the southeastern part of the district has any considerable population in its immediate vicinity, to which that part of the district may be attached, if the district [fol. 919] were separated by taking away the part east of the West Branch of the Montreal River?

A. The district is very unsettled; I think in taking the census last week, there were only three or four families altogether.

Cross-examination by Mr. Sawyer:

Q. Mr. Connors are you familiar with the school equipment and management in Ironwood across the river?

A. I am not.

Q. Do you know as a matter of fact, that their equipment is better than that at Hurley and that their teachers are better paid?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial as to what their teachers are paid.

Q. Don't you know that?

A. I rather think their salary schedule is higher.

Q. Their buildings are better, are they not?

A. Some of their grade buildings are better.

Q. Isn't their high school a much better building than the Hurley High School?

A. At the present time, yes.

Q. Is there any reason to apprehend that this territory, if it were transferred into Michigan, that the school children of this district would suffer thereby or wouldn't it be more apparent that they would be benefitted by it?

[fol. 920] A. I couldn't say as to that.

Redirect examination by Mr. Rieser:

Q. Would the children west of the West Branch in any way suffer?

A. I rather think they would, for the reason that the longer distance they have to be transported, the fewer children attend school.

Q. What about the high school facilities? Would there be any west of the West Branch at the present time?

A. No.

Q. If the Hurley facilities were taken away from those people?

A. No sir.

Witness excused.

Mr. Rieser: I offer Defendant's Exhibit 371, pages 1 to 16 inclusive, Compilation of Taxation records of lands in Door County, Wisconsin, from records in the office of the County Clerk and County Treasurer of said county, Township 33, Range 29. Offered as the title index of Exhibit 371.

Mr. Rieser: Defendant's Exhibit 372, pages 1 to 43 inclusive, compilation of taxation records, lands now in Iron County, Township 44, Range 2 East.

Mr. Rieser: Offer Defendant's Exhibit 373, pages 1 to 55 in-

[fol. 921] clusive, a compilation of taxation records, lands now in Iron County from Ashland County, Wisconsin, from records in offices of County Clerk and County Treasurer of said county, in Township 44, Range 2 East.

HJALMAR KALOMINEN, being produced as a witness on behalf of the plaintiff, being first duly sworn, testified as follows:

Direct examination by Mr. Sawyer:

Q. Where do you live Hjalmar?
A. River Branch.
Q. That's right near the forks of the East and West Branch of the Montreal River where the two rivers come together?
A. Yes.
Q. That's on your land, is it?
A. Yes, that's my land.
Q. You have lived there how long Hjalmar?
A. Five years, little over.
Q. During that time, did you know of any change in the river bed of either the East or West Branch,—did anything happen to change the place where the river flows?
A. It cut the bank.
Q. Where did it cut the bank, Hjalmar?
A. Four years ago.
Q. The place that it cut the bank was right alongside the log jam above where the two rivers come together?
A. Yes sir.
[fol. 922] Q. And it cut off the right hand bank just where they come together?
A. Yes sir.
Q. There used to be a point of land running out there and that was washed away, is that true?
A. I don't know what you mean.
Q. There used to be land coming out further and that washed away, so the river could get into the other quicker, is that true?
A. Yes sir.
Q. You say that was four years ago this spring?
A. Yes sir.
Q. Where the river cut through, it made a brand new channel or did it cut the old one more?
A. It made a new one.
Q. And it washed out down below a little more?
A. Yes it washed out down by my land, down there.

Cross-examination by Mr. Rieser:

Q. Does your land go over the river, on the other side of the river?
A. Yes, about three acres, a little piece in the corner.
Q. It comes out on the corner there where the rivers come together, is that right?
A. Yes sir.
Q. And when were you first on that land there, on that three acres?
[fol. 923] A. What do you mean?

Q. When did you first go over onto that three acres the first time you were on it—over there to work on it?

A. I don't know.

Q. Have you ever been over across the river on the other side of the river where your land is? Have you been over on your land?

A. Yes sir.

Q. When was the first time you were over there?

A. Seven years ago.

Q. Now how far down to that wash there did the river wash along the banks?

A. I don't know.

Q. Have you any idea about how far?

A. About one hundred feet.

Q. And it started above the jam—above the log jam? You know what we mean by the log jam where the logs are all thrown on every side?

A. That's all full—the river full of logs.

Q. And the river cut around those logs did it?

A. Yes sir.

Q. Where did it cut after it cut through,—did it go back where it had been before?

A. No, it went through a new place.

Q. But it cut the bank didn't it right along the log jam?

A. Yes.

Q. Now after it got away from the log jam then did it go right [fol. 924] back into the old channel—do you get what I mean by channel?

A. Yes I know.

Q. Where did it go?

A. It don't run in the old channel at all.

Q. How far is it away from the old channel? the new cut that is cut away?

A. About one hundred feet.

Q. You mean it is one hundred feet long where it has cut away, is that what you mean? Let's take a look at this picture—maybe you can tell from that. Do you remember this big stump just before the Montreal goes into the West Branch?

A. That stump is in the center of the new river.

Mr. Sawyer: Will you point on there where the new wash is? (No answer.)

Mr. Rieser: Where is the new wash? (No answer.)

Mr. Sawyer: Was this land across here before it washed?

A. That's a new river right here.

Mr. Rieser (indicating): From the left of this large stump, is that what you mean?

A. Yes sir.

Q. And this over here is the old river (indicating)?

A. Yes sir.

Q. That's on the right hand side?
A. Yes sir.

Witness excused.

[fol. 925] MRS. ANN SIEVERT FRAZIER, produced as a witness on behalf of defendant, being first duly sworn, on oath testified as follows:

Direct examination by Mr. Rieser:

Q. Mrs Frazier, you are county clerk of Lincoln county?
A. Yes sir.
Q. How long have you been county clerk?
A. Since the 2nd day of January, 1925.
Q. And you have now in your custody and control the books and records of the county of Lincoln?
A. Yes sir.
Q. And have you brought with you the minutes of the County Board and records of your county?
A. Yes sir.
Q. And are those part of your records in your county?
A. Yes sir.
Q. And were they turned over to you as the public records in your county at the time you took office?
A. Yes sir.
Q. Now I will show you page 18 of that minute book and call your attention to a meeting of the County Board of your county on February 21, 1876 and on the middle of page 18, will you please read that into the record, please?
A. A Resolution to alter the boundaries of the town of Robertson was agreed by Dab Kline and John Roberson for, Fred Riebe against; said resolution was as follows: First, that all of Sections 1, 2, 3, 9, [fol. 926] 10, 11, 12 and 16 of Township number 31, north of range number 7 east; all of sections 24, 25, 36, and east half of sections 35 of Township 32 north of range 7 east, and sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 of township 31 north of range number 8 east; all of township number 32, north of range number eight east, except sections 5, 6, 7; all of township #32, north, and east half of townships 33 and 34 north of range number 9 east, and West half of township 31 and west half of sections 3, 10, 15 22, 27 and 34 of township number 31 north of range number 10 east; all of sections numbered 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33 and 34 of township number 32 north of range number 10 east, and all of township 35, 36, 37, 38, 39, 40, 41, 42, 43 of range number 9 east, is hereby detached from the town of Jenny and shall as soon as organized as hereinafter provided, be called and known as the town of Robertson."

Mr. Rieser: Calling your attention to the same record on page 44, I will ask you to read from the middle of the page.

A. "The Board of Supervisors of Lincoln County do order and determine as follows:

Section 1: The County road now established and running from Jenny northerly through ranges 6, 7, and 8, is hereby extended from Pelican river north to Eagle river, at or near the line between sec-
[fol. 927] tions 33 and 34, township 40 north of range 9 east.

Section 2: For the purpose of locating and constructing such road, all of the highway tax levied in townships 37, 38, 39, 40, 41, 42 and 43 north of ranges 8, 9 and 10 east is hereby set apart and appropriated.

Mr. Rieser: The last resolution was dated January 20, 1877?

A. Yes sir.

Cross-examination by Mr. Sawyer:

Q. That last resolution taxed land in the disputed area to build a road none of which is in the disputed area?

Mr. Rieser: That's admitted by counsel.

Witness excused.

Mary Houg, being produced as a witness on behalf of the defendant, being duly sworn, testified as follows:

Direct examination by Mr. Rieser:

Q. Miss Houg, you live in Eagle River, do you?

A. Yes sir.

Q. And are now county clerk of Vilas county?

A. Yes sir.

Q. How long have you been county clerk?

A. This is my third term, starting on my third term.

[fol. 928] Q. In your capacity of county clerk, you have in your custody the records and minutes of the proceedings of the county board of your county?

A. I do.

Q. And have you with you certified copies you have made of the proceedings of the County Board of your county establishing the towns of Winchester and State Line?

A. Yes sir.

Q. And those resolutions are true and correct copies of your records as they are shown?

A. Yes sir.

Q. And the two resolutions you have just referred to, have now been marked and referred to as Defendant's Exhibits 374 and 375?

A. Yes sir.

Mr. Rieser: We offer those in evidence.

Q. Have you a map of Vilas county?

A. Yes sir.

Q. Are there any other townships now along the boundary line in the north end of your county, that you have not mentioned?

A. Presque Isle and Phelps.

Q. And how were those towns created?

A. They were created by the legislature and town of Winchester. The ordinance that I made a copy of was created from the Town of Presque Isle about two years ago.

[fol. 929] Mr. Rieser: I would like to read into the records from the laws of 1907, Chapter 9, entitled "An Act to detach certain territory from the towns of Flambeau and Arbor Vitae, in Vilas County, and to create the town of Presque Isle and provide for town meetings therein for final settlement between said towns. The people of the state of Wisconsin, represented in Senate and Assembly, do enact as follows:

Section 1: Territory of the Town of Presque Isle, all that portion of the present town of Flambeau, and all that portion of the present town of Arbor Vitae in Vilas County in the state of Wisconsin, described as follows: Township 44 north and sections one to eighteen inclusive, of township 43 north of range 5 east, and now forming a part of the town of Flambeau, in said Vilas county and Townships 43 and 44 north of range 6 east, now forming a part of the town of Arbor Vitae, in said Vilas County, are hereby set off and detached from said towns of Flambeau and Arbor Vitae and duly created and organized as a separate town to be known and designated as the Town of Presque Isle, in said county of Vilas."

Published March 14, 1907, and provides that it shall take effect and be in force from and after its passage and publication.

Mr. Rieser: I also read into the record Chapter 202, "An Act to detach certain territory from the county of Forest, and to attach the same to the county of Vilas and to create the town of Hackley." [fol. 930] "The people of the state of Wisconsin, represented in Senate and Assembly, do enact as follows:

"Territory detached.

"Section 1: Township 41 north of Range 12 east and township 42 north of range 12 east, are hereby detached from the county of Forest and attached to and made a part of the county of Vilas.

Territory embraced in the town of Hackley is section 2, in township number 41, north of ranges 11 and 12 east, and township forty-two north of ranges 11 and 12 east, are hereby created and constituted a separate town to be known and designated as the town of Hackley."

Mr. Rieser: Now are the supervisors elected in the towns you have mentioned in your certified copy and in the towns just referred to—do they take part in the town proceedings of the county board of your county?

A. Yes sir.

Q. Are you also familiar with the development in townships 43 and 44 north so far as highways etc. are concerned?

A. Yes sir.

Q. And are there any improved highways in that region?
A. Yes sir.
Q. Where?
A. From Arbor Vitae, that is highway 10, runs through about 25 miles of Winegar in the town of Presque Isle; of course highway 10 doesn't run way in; there is a county trunk W, which is im-[fol. 931] proved and runs in.
Q. And the county of Vilas?
A. Yes.
Q. And when you say Winegar, that's a small settlement of about how many people right near the boundary line?
A. About 200—a mill town.
Q. Then there is another town?
A. Winchester.
Q. Are there any public schools in that region?
A. There are schools in both of those towns,—country schools, probably two rural schools in those towns; the others are graded schools.
Q. The highways and schools are indicated on the map you have produced here?
A. Yes sir.
Q. Map of Vilas County marked Exhibit 376. (Defendant's.)

Mr. Rieser: Defendant's Exhibit 376, offered in evidence.

Mr. Rieser: Now we refer here to the town of Hackley being created by Chapter 202 of the laws of 1905. What is that town now known as?
A. Phelps.
Q. Has that been changed recently?
A. No, I don't know. It gives it Hackley on the map. There was an error in the printing of the map. It should be Phelps.
Q. So that it is township as well as town now?
A. Yes.

Cross-examination by Mr. Sawyer:

[fol. 932] Q. Referring to Defendant's Exhibit 376, do you know approximately the territory which is in dispute in this case?
A. Yes.
Q. Now the improvements which are in that territory in the nature of schools and highways have been built from taxes spread at large in the county?
A. Yes sir.
Q. From your knowledge of the county, would you say that that proportion of the county has any greater improvements in relation to the other proportion or less?
A. I would think about the same. Of course those are just mill towns and they have no high schools.
Q. Probably the greater proportion of the county road tax is spent per acre outside of that district, compared to what is spent inside. There are only two county roads entering the district?
A. Yes sir.

Q. Are the school taxes raised at large in the county or in each district?

A. In the towns.

Q. So as a matter of fact the improvements in that area have to all practical purposes been paid for from the taxes raised on that area?

A. Yes, so far as schools are concerned.

[fol. 933] Q. That would be also true as to the roads?

A. No, because I think the county appropriates money to build roads in those towns.

Q. The county has expended money on these roads?

Q. Yes sir.

Q. And that money was raised by taxation on these lands also?

A. Yes.

Q. And the proportion of roads in this district to the total acreage of the county is about the same as the proportion of taxes raised by this district?

A. Yes sir.

Witness excused.

R. R. Houghteling, produced as a witness on behalf of defendant, being first duly sworn, testified as follows:

Direct examination by Mr. Rieser:

Q. Mr. Houghteling, where is your home?

A. Near French River, Minnesota.

Q. And have you been working in the woods near the boundary line of Wisconsin and Michigan for many years?

A. I have since 1920.

Q. For what company?

A. The Wisconsin-Michigan Lumber Company at Eagle River.

Q. That is the company that operates a plant at Lake Vieux Desert?

A. Yes.

[fol. 934] Q. Are you familiar with that country around there?

A. I am familiar with that one town the timber is in.

Q. What town is that?

A. Town 44 north, range 38 West, Michigan, Gogebic county.

Q. Your business is a cruiser?

A. Cruiser and logging foreman.

Q. And is that the kind of work you have been doing for this company?

A. Yes.

Q. Have you been through that section of the country for the company you have referred to quite extensively during the work?

A. Yes sir.

Q. Do you know where the headwaters of the Little Paint or Paint as it is sometimes known, are?

A. Yes.

Q. And where are they located?

A. The Paint river rises right near the section corner of Sections 27, 28, 33 and 34. It is a system of springs that covers probably forty acres, and they are mostly in the northwest quarter of the northwest quarter of section 34; some of it runs into section 27 and there is a little in section 33, but the most of it is in 34.

Q. From there, in what general direction is the Paint?

A. It runs a little north of east across 27 and across 26, almost east, just a little north of east, and in the eastern part of 26 it swings to the northeasterly direction, and crosses section 24 and crosses the [fol. 935] range line at about the corner of 24 and 13.

Q. And have you followed it as far as Highway 12 in Michigan?

A. Yes, I followed it down as far as Elmwood.

Q. And Elmwood is on Michigan Highway No. 12, is that right?

A. Yes sir.

Q. Do you know where Cook's Run is?

A. I have been across the headwaters of it where it crosses the range run along the eastern edge of town 44 and range 38.

Q. That is also in Michigan?

A. Yes, it is also the county line between Gogebic and Iron County, I believe is next.

Mr. Sawyer: It crosses the range line south of where the stream referred to as the Paint crosses?

A. Yes.

Mr. Rieser: What is the size of this stream you refer to as the Paint?

A. It ranges from places where it is rapid—it will be probably eight to ten feet wide and from one to two feet deep and some places where there is dead water it widens out to places where possibly it may be 100 feet wide, but in the swift running places it will run to ten feet wide and average from a foot to a foot and a half deep.

[fol. 936] Q. What can you say as to the streams in that locality as to whether they are low?

A. The others are, but the Paint is a spring creek and it averages about the same. There is always water in the Paint. You can take a drink out of the Paint the hottest day in the summer and it is good water.

Q. And is the stream quite clearly defined as it leaves this spring area?

A. Yes.

Q. And from there on down is well defined?

A. Yes, from there on down it is well defined all the way.

Q. Are there any other streams that cross the range line that you have referred to as being the county boundary line?

Q. What is the range again?

A. Range 38.

Q. That run in a northerly direction there?

A. No, not until you come south in the next town, down in 43, there is a couple of small creeks that I have been told go into Cook's Run. I have never followed them down below the Range line and I couldn't say.

Q. They run in an easterly direction?

A. Yes.

Q. And they run into Cook's Run from your information?

A. Yes, they run into Cook's Run—there is a trail leading from Lake Vieux Desert.

[fol. 937] Q. Trail leading from Lake Vieux Desert to these headwaters you speak of?

A. Yes.

Q. How far would it be to Lake Vieux Desert?

A. From Lake Vieux Desert it would be about four to four and a half miles from Vieux Desert across—there is some creeks marked there.

Q. And when you say they are marked there—they are marked in sections 1 and 12 right near the range line you have just referred to?

A I couldn't say exactly that those creeks are there, but only in that general direction; just small streams there, you would scarcely notice them.

Q. Now then your development in that region, Mr. Houghteling, has been progressing around from the northwesterly side of Vieux Desert and approaching the northeasterly side, is that correct?

A. Exactly.

Q. And the holdings of the company, do they extend in a southeasterly direction from there on?

A. Practically all of this town (Indicating); all of this (indicating).

Q. And when you say "all of this" you refer to the southeast part of township 43, range 38 west in Michigan?

A. Yes.

Q. And have you been in the region down toward the southeasterly end of that town?

A. I have.

[fol. 938] Q. For what purpose?

A. We were looking a route for a railroad more than anything else; we were on these section lines. This was before the snow was off last spring, we were down in there.

Q. Were you able from your trip in there and your investigation, able to determine what way the drainage in the vicinity of the lakes that are located down near the southeasterly end of township 43, range 38 west—where the drainage led to from the vicinity of those lakes?

A. It is my opinion that the drainage from those lakes is over here in this Vieux Desert swamps and down this way.

Q. Was it necessary to determine that in order to have your road follow somewhat on a level across?

A. Yes our road is into section 10, and we go in a southerly direction until we strike these swamps and then follow the creek. We follow the swamp close to this point.

Q. That is the middle one which is shown on the exhibit map?

A. Yes.

Cross-examination by Mr. Sawyer.

Q. Right in that location, can you place a divide between the drainage of the Vieux Desert and the Brule, right along that line?

A. I don't believe I hardly could definitely. I have not been on the state line all the way through.

[fol. 939] Q. From the territory surrounding, can you get fairly close to that?

A. I should judge it was down here (Indicating on map).

Q. That would be between the lake in section 23 and the easterly range line of 43 north range 38 west?

A. Yes, that's my opinion.

Q. Are you familiar with the territory around Atkinson, Iron County, Michigan?

A. Atkinson?—No sir.

Q. Do you know that this river you speak of as the Paint is only one of the tributaries of the Paint?

A. I am not familiar with that.

Q. You don't know then whether it is the main Paint or a tributary?

A. No I do not.

Q. Do you know whether there is a tributary coming in from the north just above or below Elmwood?

A. There is none above; when I say above I mean up stream.

Q. What size stream is the main Paint as compared with Cook's Run?

A. Now, as I said a few minutes ago, the only thing I have ever seen of Cook's Run was two little streams.

Q. You have never seen the main Paint?

A. No, I have not.

Q. That is somewhat below Basswood?

A. Yes.

Q. For what reason then do you call this other stream the Paint, [fol. 940] merely because you have heard it described as the Paint?

A. It is called the "Paint" by the residents around there and on the maps and everything—everything goes to indicate that it is the Paint.

Q. And the description you gave it as to size and so on, is that as it is at the head or further down?

A. That's kind of an average; it is pretty near the same size all the way down. These springs that originate it is practically all the water that is in it this time of year.

Redirect examination by Mr. Rieser:

Q. Are you familiar with the location of "Smokey Lake"?

A. No, I have not been down as far as Smokey Lake. Let's see—Smokey Lake, that's down here (Indicating on map).

Q. Yes.

A. I have never been east of the range line.

Q. Well then do you know whether or not the headwaters of the Brule are right near the range line of Range 38?

A. No, I couldn't say.
Q. You might be on down somewhat farther?
A. There is no water running in that direction from here. (Indicating on map.)
Q. As far as you went?
A. There is no water running east except those two streams there (Indicating on map.)
[fol. 941] Q. Now you say along the range line, the east range line, in township 43, range 38, west, there is no water running east as far as you have been, excepting two little streams which you referred to a moment ago, which are located on the plat of township 43, range 38 west, in sections 1 and 12?
A. That's all; that's all the water I have seen that runs east.

Witness excused.

J. F. SULLIVAN, produced as a witness on behalf of defendant, being first duly sworn, testified as follows:

Direct examination by Mr. Rieser:

Q. What is your first name, Mr. Sullivan?
A. John F.
Q. What is your business?
A. Drug and jewelry.
Q. In the city of Hurley?
A. Yes.
Q. How long have you lived in Iron County?
A. Well, since it was Iron County.
Q. You are the fellow who really found the county?
A. Well, there is only one man on the whole range who has been here as long as I have. He lives in this town.
[fol. 942] Q. You came in here when?
A. The spring of 1882.
Q. And where did you come from?
A. Ashland.
Q. And you, of course, walked in at that time?
A. Yes.
Q. Was there any settlement then at Hurley?
A. No, dense wilderness.
Q. Were there any settlements or any people living in this vicinity at that time, in the vicinity of Hurley?
A. No.
Q. In the vicinity of the iron ranges were there any people living down claims?
A. No, there was nothing excepting exploration camps. There was one right here "The Germania," I guess it was 24, I guess, I don't remember the section, now.
Q. It is right in what is the city of Hurley now?
A. Yes, and there were some further out east in 33, there was

another. They were strung along, different exploration camps, the same as in Michigan—just shacks you know.

Q. Now did the settlement of Hurley start soon after that?

A. The settlement of Hurley started the spring of 1885. The first Tuesday in April, 1885, was our first election; that was the organization of the town of Vaughan,—the village of Hurley.

Q. And it took in territory on both sides of the West Branch of the Montreal River at that time?

A. At that time, there was no West Branch named.

[fol. 943] Q. What was it named?

A. It was an Indian name.

Q. Was it Gogogashun?

A. Yes, that was what the river out there was called—the Indian name, and this was the Montreal River on this side.

Q. That is the Montreal river was the one which is flowing now between the cities of Ironwood and Hurley?

A. Yes sir.

Q. Was there some lumbering started in this region about the same time?

A. Yes sir.

Q. And did that start out from around the vicinity of Hurley?

A. Yes, the Montreal River Lumber Company built quite a large mill out here on this other river.

Q. What we now know as the West Branch?

A. Yes, I think that was about the starting of the name the East and West Branch on account of the mill being located out there. This Indian name was rather hard to remember and they called it the West Branch, but not before that time.

Q. And that was about 1885 you say?

A. Yes sir.

Q. When did you start voting in Hurley?

A. We started voting the first Tuesday in April, 1885.

[fol. 944] Q. And where was the voting done at that time?

A. It was just one door west of the present postoffice.

Q. And that is located on what street?

A. On Silver street.

Q. That is the main street in the city of Hurley?

A. Yes.

Q. And that's about how far from the Montreal River?

A. That's about three blocks.

Q. And did you vote there for state officers as well as town and county officers?

A. Yes sir.

Q. And have you continued to vote for officers of the state of Wisconsin from that time on?

A. In that place and across the street there we voted once or twice, and then we established the town hall where the present Town Hall is now right back of it on Copper Street. The town bought that lot and established it and have had it ever since. I think they bought it, if I remember right, in 1886.

Q. You were also an officer of the town of Vaughan, were you?

A. Yes, I was a member of the first Town Board.
Q. And did you participate in the building of any highways?
A. Yes sir.
Q. Where did the first highway run from?
A. From Hurley to Pence.
[fol. 945] Q. When was this highway that you have just referred to built?
A. That was built in 1885 and later in 1891 we built this Van Buskirk road—that was a county road, but we were in Ashland county at that time. No, it was a town road but the county helped us with that road to the extent of five thousand dollars.
Q. And is that the same road substantially as the present Highway 10 coming into Hurley?
A. Yes, Van Buskirk had quite a large mill out there at that time.
Q. When was that mill established?
A. In 1886, shortly after the Montreal Company.
Q. When was the first railroad built here?
A. The first passenger train ran through Hurley the third of July, 1885.
Q. And that came from where?
A. That came from Ashland, that train.
Q. On what line?
A. On the Milwaukee and Lake Shore.
Q. Is that the same as the Northwestern now?
A. Yes, the Northwestern took it over later.
Q. And it follows about the same right of way that the Northwestern from Ashland now follows?
A. Just the same; there has never been any change.
Q. And what was the next road that was built in here?
A. Well, the Wisconsin Central.
[fol. 946] Q. And that was later leased to the Soo Line?
A. Yes, it is now known as the Soo.
Q. Do you recall when that came in?
A. I think that was about '86, if I remember right.
Q. And the next line that came in?
A. There isn't any other railroads in here.
Q. I mean the next line of track that was built? What about the line running from Hurley to Pine Lake?
A. They run through what is called the Rhinelander Branch; they run through, I think—I believe that started in '86.
Q. I show you now Defendant's Exhibit 377 and ask you whether or not the highway shown as Highway 10 follows substatially the same course as that road that you said was the second road that was built?
A. Yes sir.
Q. And the railroad running immediately east of that, is that the Rhinelander Branch of the Northwestern, that you refer to?
A. Yes.
Q. And that follows substantially the same course?

A. Yes, never been changed.

Q. And the railroad south of Highway 77 is the line running from Ashland?

A. Yes.

Q. And that's the first road that run a train into Hurley?

A. Yes.

[fol. 947] Q. And the South Shore runs from Saxon easterly and across the Montreal River over to north Ironwood, is that right?

A. Yes sir.

Q. When was that built?

A. I would not be sure about that. It would be in the later eighties.

Q. After '86 you think?

A. I think it would be along about '88 or '89, that is approximately.

Q. Now when was the city hall built here in the city of Hurley?

A. We built the first building that we used for a city hall in 1885. That was on the north side of Silver Street, along about where the Show building was—the bakery building is now, and later we built the town hall, or we bought the building that was used for a skating rink. There was a man built a skating rink in 1885 and in 1886 we bought that building from him for a town hall and used that for the town hall until the fire wiped it out. But the town hall was rebuilt and it has always been in the same place since, that time.

Q. And that was where it it is located now?

A. Yes sir.

Q. About when was the town hall rebuilt?

A. Well, 1887 it was burned down.

Q. And rebuilt right afterwards?

A. Yes sir.

[fol. 948] Q. And is it now used as a town hall upstairs and a fire department down stairs?

A. Yes sir.

Q. Do you know what the present population of the city of Hurley is?

A. Why no.

Q. At the last census?

A. I don't—something like 3,500 I guess—that's approximate—I don't know exactly.

Q. When was the Montreal location located there—the town?

A. Montreal town?

Q. Yes?

A. You mean the mining location?

Q. Yes?

A. Oh, that was located along in 1885.

Q. And did the settlement in that vicinity start up about that time too?

A. Well, the mining location of course. They built some buildings for to live in. Of course that was all in the town of Vaughan and in 1885 when we organized School District No. 1, we took

everything from here to Pence, instead of having the thirty-six sections in a square, we distributed them out along the mining range.

Q. That was where the most money was to be gotten?

A. Yes, surely. It was that way then and has been that way ever since.

[fol. 949] Q. School District No. 1 is substantially now as it was then?

A. Yes sir.

Q. Can you recall when the first schoolhouse in Hurley was erected?

A. About 1886.

Q. Was that located about where the present high school is?

A. It is located right here, you can see it from the court house.

Q. The south side high school?

A. The south side high school—yes, the same location.

Q. About when was the present high school building built, if you recall?

A. I was a member of that school board at that time too, but I can't just remember now; I should judge though it would be about —oh it must be close to 25 years. I was a member of the Board that built it, but I don't just recall the dates.

Q. The present court house was not built by Iron County was it?

A. No, the present court house was built by the town of Vaughan.

Q. For what purpose?

A. For a town hall and later sold to the county.

Q. By the town of Vaughan?

A. Yes sir.

[fol. 950] Q. And the county jail buildings,—when were they acquired?

A. Well the county jail was built I think, about—let me see—I remember we had the county jail here.

Q. When you say here, you mean in connection with the court house?

A. I was the first sheriff of the county and we had a jail here during my term of '93 and '94 and I think '95 and '96—I think about '97 perhaps.

Q. And that county jail is also located in the city of Hurley?

A. Yes sir.

Q. I think that's all.

Witness excused.

Ida B. Bradley, being produced as a witness on behalf of the defendant, being duly sworn, testified as follows:

Direct examination by Mr. Rieser:

Q. Miss Bradley, are you the county superintendent of the county of Iron?

A. Yes sir.

Q. And how long have you been county superintendent?
A. Since 1920.
Q. And county superintendent in Wisconsin, has jurisdiction over the schools in the county, is that right?
[fol. 951] A. Yes sir.
Q. And are you familiar with the various schools located in Iron County?
A. I think so.
Q. I show you Defendant's Exhibit "377" and ask you whether or not the information on that in pencil and pen was prepared by you?
A. Yes sir.
Q. And calling your attention to the town of Oma, is there a school district in that own?
A. Yes there is.
Q. And that is known as what?
A. The town of Oma has School District No. 2.
Q. And how many schools are there in the town?
A. Two rural schools the past year and one state grade school with two teachers.
Q. And how many teachers altogether employed in the town?
A. Four.
Q. And where are those schools you have referred to located?
A. They are on the map.
Q. They are located on the map?
A. Yes sir.
Q. And the first one is called the Rein school?
A. Yes, that was closed the past year.
Q. The situation prior to that time was that the Rein school had pupils from the town of Oma and also some from the Town of Carey?
A. Yes sir.
[fol. 952] Q. Which was in the Hurley district?
A. Yes sir.
Q. Hurley started transporting these pupils to Hurley?
A. Yes sir.
Q. And the Rein school had very few pupils left?
A. Yes sir.
Q. How many?
A. Not more than five I think.
Q. What other school is there?
A. The Central school is the next school.
Q. And you have also located that on the map?
A. Yes sir.
Q. And the state graded school?
A. Yes, that is the next one.
Q. And the next one?
A. The Sand Rock school.
Q. And the Sand Rock School, that is where?
A. Down in the Lake District.

Q. Are there any schools in the town of Oma?
A. No, there are none.

Witness excused.

[fol. 953] JOHN G. BECKER, produced as a witness on behalf of the defendant, being first duly sworn, testified as follows:

Direct examination by Mr. Rieser:

Q. Are you Register of Deeds of Iron County?
A. Yes, of Iron County.
Q. And how long have you been register of deeds?
A. Since January 2, 1925.
Q. And you have in your custody the records of plats affecting property in Iron County?
A. Yes sir.
Q. I will call your attention to the list of plats and ask you to read those that are east of the West Branch of the Montreal River?
A. The Penokee and Gogebic Development Company's Addition to Hurley.
Q. When was that filed?
A. September 12, 1885; that is one. The Northern Chief Iron Company's Addition to Hurley filed July 25, 1885 and Wetzler's Plat.
Q. I will show you Defendant's Exhibit 378, a list of various plats filed in Iron County, and ask you if all those plats are filed in your office?
A. Yes.
Q. I will call your attention to Iron Belt Mining Company's Third Addition to Iron Belt, and ask you if that is one west of the West Branch?
[fol. 954] A. Yes sir.
Q. Also the map of the village of Pence—that is west of the West Branch?
A. Yes.
Q. And the Batista Calve plat, where is that?
A. That's west of the West Branch.
Q. And the plat of the Village of Pine Lake?
A. That is vacated.
Q. And the village of Magnetic Center?
A. That is vacated.

Mr. Sawyer: Have you any plat of the village of Montreal?
A. No sir.

Mr. Rieser: I offer Defendant's Exhibit 378 in evidence.

Mr. Rieser: Did you also have a list of corporations that are doing business in Iron County?
A. Yes sir.

Q. And have you a list of the corporations doing business west of the West Branch of the Montreal River?

A. No, I didn't include those.

Q. Those east of the West Branch of the Montreal River are included?

A. Yes sir.

Q. Showing you Defendant's Exhibit 379, I will ask you if that is a list of those corporations?

A. Yes sir.

[fol. 955] Q. And those are corporations organized under Wisconsin laws?

A. Yes sir.

Q. And filed with you in your office as Register of Deeds?

A. Yes sir.

Q. And so far as you know those are all the corporations that are now in existence?

A. Yes, so far as I know those are all the corporations that are now in existence.

Q. That are operating east of the West Branch?

A. Yes sir.

Q. And as I understand some of those mining companies operate on both sides of the river?

A. Yes sir.

Q. Including the Montreal Mining Company?

A. Yes sir.

Witness excused.

[fol. 956] Luella Trier, produced as a witness on behalf of the defendant, being first duly sworn, testifed as follows:

Direct examination by Mr. Rieser:

Q. Mrs. Trier, you are the county treasurer of Iron County?

A. Yes sir.

Q. And how long have you been county treasurer?

A. For about fourteen years—an interval of two years that I wasn't.

Q. And have you the custody of the tax records so far as the tax rolls are concerned of Iron County?

A. I have.

Q. And do you have with you the tax rolls of the town of Oma, Carey, Pence and Kimball? and the city of Hurley and the city of Montreal?

A. All but Pence; I didn't bring up Pence.

Q. Now, I will ask you whether those tax rolls show the valuation of the property in the various towns referred to?

A. Yes, they do.

Q. Will you now refer to that and specify the town and give us the valuation as appears on the tax rolls which you have produced?

A. The City of Montreal, the valuation is $2,473,274.00.
Q. That is the tax roll for the year 1924?
A. That is the tax roll for the year 1924 for the city of Montreal.
[fol. 957] Q. And that's true of all the tax rolls you have here?
A. Yes sir.
Q. Now the first one?
A. The town of Oma—$12,191.89.
Q. All right, the next one?
A. Hurley—$3,619,886.81—that's the city of Hurley.
Q. All right, the next one, please?
A. $561,946.—that's the town of Carey.
Q. The next one please?
A. This is the town of Kimball—valuation $565,241.00 and Pence—$641,860.00.
Q. Mrs, Trier, do you also have the minutes of the proceedings of the county board of Iron County, dating from the organization of the county?
A. Yes I have.
Q. Calling your attention to page 72, under date November 24, 1893, is there a levy there for schools?
A. (Witness reads as follows:) "Resolved that the tax levy for the county of Iron for school purposes for 1893 be as follows:
Levy against the town of Vaughan—$1100."
Q. On pages 73 and 74 is there an adoption of the county road?
A. Yes sir.
Q. Will you read the resolution?
[fol. 958] A. "Resolved, that the main county highways hereinafter designated, be, and the same are hereby adopted as a county road, and shall hereafter be kept in repair at the expense of said county."
"State Highway being described as follows: Commencing at the point on the west line of section 6, in township 46 north of range one east, south of the right of way of the Chicago & Northwestern Railway Company, thence easterly along and parallel with the south line of the right of way of said Railroad company to the section line between sections 5 and 6, in said township, thence south along said section line to the quarter post between sections 7 and 8 in said township; thence east through the center of sections 8, 9 and 10, 11 and 12 of said township to the east line of said section 12."
"Resolved also, the following road described as follows, to-wit: Commencing at quarter post on said line of said section 21, township 46, range 2 east, thence east on said quarter line through sections 21 and 22, 23, 24, to the village of Hurley in town 46, north of range 2 east. The said road is hereby adopted as a county road and shall hereafter be kept in repair at the expense of said Iron County."
Q. On page 75, I will ask you what the records show as to the state tax levy for that year?
A. State taxes—$2,888.10. School fund—$1,100.00. County Superintendent's salary—$360.
[fol. 959] Q. Now on page 88. On December 15, 1893 was there authority issued for a bond issue of $37,000 for a county jail?

A. (Witness reads:) "You are hereby requested to call a special meeting of the County Board of Supervisors of Iron County on the 15th day of December, 1893, at the hour of ten o'clock A. M., for the purpose of bonding the county to build a county jail."

"Resolved, that the County of Iron issue its negotiable corporate bonds in manner and form as hereinafter provided to the amount of $37,000. for the purpose of building and providing a county jail."

Q. Do you know what jail that was?
A. That was down in this court house.
Q. In the present court house?
A. Yes sir.
Q. Those bonds have since been paid?
A. Yes sir.
Q. As a matter of fact all bonds have been paid?
A. We don't owe a dollar.
Q. You are square with the world?
A. Yes.
Q. Now on page 112, of the same record, is there a resolution relating to the purchase of the court house?
A. That's it, yes.
Q. And the purchase price was what?
A. The purchase price was $32,917.01.
Q. And is that the present court house site?
A. Yes.

[fol. 960] Q. Will you turn to page 327, please. What was the valuation of the town of Vaughan fixed for 1895?
A. $1,600,000.
Q. And have you also the equalized valuation?
A. Yes I have.
Q. What is that?
A. $2,029,600.
Q. At that time, do you know whether or not the town of Vaughan included the city of Hurley?
A. Yes sir.

Witness excused.

Everis H. Reid, produced as a witness on behalf of the defendant, on being first duly sworn testified as follows:

Direct examination by Mr. Rieser:

Q. Where do you reside Mr. Reid?
A. Hurley.
Q. How long have you lived here?
A. Thirty years—born here.
Q. Are you now an officer of the joint school district of the city of Hurley and some outlying territory?
A. I am clerk.
Q. How long have you been clerk?

A. Since December 24, 1924.

[fol. 961] Q. And that district operates the schools in Hurley, both high schools and grade schools in Montreal, in the town of Pence, Kimball, part of Oma, part of Carey, is that right?

A. That's right.

Q. Have you with you the records showing the total valuation of the property in your school district?

A. I have.

Q. Will you produce those?

A. For what year?

Q. The last record you have?

A. The total assessed valuation of the district—$7,675,698.81.

Q. And with the exception of the city of Montreal, is it possible to divide the valuation on either side of the West Branch of the Montreal River?

A. No, I would not be able to do that.

Q. Does the School District at the present time have outstanding any bonds?

A. It has.

Q. How much?

A. $149,500.00.

Q. And are you familiar enough with the valuations on the side of the river east of the West Branch and the part of the district west of the West Branch to say whether or not the territory west of the West Branch has a valuation great enough to warrant a bond issue of $149,500 considering that you have a limit of five percent. [fol. 962] of your valuation?

Mr. Sawyer: Objected to for the reason that it is incompetent, irrelevant and immaterial and not based on any situation which could be possibly presented by this case under the record, and calls for legal conclusion which the witness has not qualified himself to answer.

A. I would say that the valuation that would be left on the West of the river would not be sufficient to warrant the bond issue that we have now.

Mr. Rieser:

Q. And you are familiar with the fact that your bond issues are limited to five per cent of the assessed valuation?

Mr. Sawyer: Same objection.

A. I am.

Mr. Rieser: And the bond issues that were issued by the district, have been outstanding for how long a period of time?

Mr. Sawyer: Same objection.

A. Since 1916.

Mr. Rieser: Were those bonds bought by a syndicate or bond house?

A. I think the bonds that are called the Lincoln School Bonds are for the addition of the high school here in the city, and were sold to the Gogebic National Bank of Ironwood, Michigan. The Pence School bonds were issued for a school building in the town of Pence, and the South Side School Bonds were issued for a school [fol. 963] building in the town of Hurley. They were sold through the Iron Exchange Bank. I don't know who owns them now.

Q. They would be bought in one block and sold to customers?

A. Yes sir.

Q. And are they payable serially, is that right?

A. Yes, each year there is a certain amount that is retired and the interest is payable on some of them once a year and some of them twice a year.

Q. And the taxes, are they raised from one section of the district or from the entire district?

A. No, the taxes are raised from the entire district to pay the bonds.

Q. Do you know about when the present High School building was built?

A. About 1901.

Q. And has there been any addition to it recently?

A. 1916, there was a large addition built.

Q. All high school pupils from the district and the outlying territory are transported to the high school?

A. Yes sir.

Q. And does the High School of the city of Hurley furnish transportation for the grade schools to the city of Hurley?

A. Yes, in some cases they are transported.

Q. Have you records to show the various teachers employed in the city of Hurley?

A. I have.

[fol. 964] Q. Will you produce those?

A. I haven't them for each school building.

Q. How many have you got?

A. We employ 61 teachers.

Q. Have you got the teachers that you employ in the high school separated from the rest of the schools?

A. Yes sir.

Q. Give us that? What is the number in the high school?

A. Sixteen.

Q. And the rest of them are in the grade schools?

A. Yes sir.

Q. Now are there any high school facilities in the territory west of the West Branch at the present time?

A. There are none.

Q. What are the facilities so far as being able to accommodate the present school attendance for grade purposes?

A. In the city of Montreal and the part that is known as "Gile," we have a frame school building which has been condemned by the state. The building is in bad shape and the grade school building in the city of Montreal which is on the west side of the river is

crowded, and the state has recommended that a Junior High School be built in the city of Montreal; that is they do not specify where it shall be built, but to take care of the people in the city of Montreal. The people of Montreal believe that one high school in the district would be sufficient, and that their children would get greater bene-[fol. 965] fits by having their children come into the high school here, rather than build a high school in Montreal and duplicate the work. So they have asked for a twelve room grade school building, and we expect to issue a bond issue for same.

Q. The bond issue will be how much?

A. Approximately one hundred thousand dollars. We have employed architects. The bids have not been let yet. That building will be built on the west side of the river. They expect it.

Cross-examination by Mr. Sawyer:

Mr. Sawyer: No questions.

Witness excused.

At this point an adjournment was taken until 7:30 P. M. of July 31, 1925, at the Court House at Hurley, Wisconsin.

At 7:30 P. M. of July 31, 1925, at the Court House at Hurley, Wisconsin, the hearing in the above cause was continued, with the Commissioner and attorneys present as before.

W. T. Lennon, being produced as a witness on behalf of defendant, being first duly sworn, on oath testified as follows:

Direct examination by Mr. Rieser:

Q. Mr. Lennon, are you the mayor of the city of Hurley?

A. Yes sir.

[fol. 966] Q. How long have you been mayor?

A. Well I am on my third term—about five and a half years.

Q. Do you have with you a compilation showing the various type of bonds and showing the amount thereof issued by the city of Hurley?

A. I have.

Q. Will you start on the list and tell what they are? The amount outstanding on January 1st, 1924 and the amount of annual redemptions since that that were made?

A. The street improvement bonds—amount of issue $19,500. Date of issue June 1st, 1921. Amount outstanding January 1st, 1924—principal $14,695.00. The bonds are in the denomination of $1,000 payable semi-annually.

Q. On what dates?

A. Approximately June first and December first. The next issue Sewer Bonds—amount of issue $10,000. Date of issue—June 1st,

1921; amount outstanding January 1st, 1924,—principal—$6,620.00 These bonds are in denominations of $1,000 each, payable on June first and December first each year.

Q. Payable $1,000 each semi-annual payment?

A. Yes, payable one thousand dollars each semi-annual payment. The street improvement bonds—amount of issue $20,000, date of issue—July 1st, 1922; amount outstanding on January 1, 1924—principal—$17,525.00. The denomination is not stated, but I think they are $1,000 denomination.

[fol. 967] Q. And are they payable a thousand dollars semi-annually too?

A. I think so. Water Works Construction Bonds—Amount of issue—$55,000. Date of issue—January 1st, 1923; amount outstanding January 1st, 1924—$49,750.00. These bonds are in the denomination of $2,500 each, payable semi-annually.

Q. At the rate of $2,500 semi-annually?

A. Yes, due July 1st and January 1st, each year.

Q. Those are all the bonds that you have issued?

A. Yes sir.

Mr. Mosier: No cross examination.

Mr. Rieser: I would like to offer in evidence the following statement as to valuation of county buildings and insurance carried thereon. The valuation for insurance purposes made to the state of Wisconsin, on or about the first of January, 1925; on the court house complete was $70,000, upon which there was carried $50,000. in the state insurance fund.

That there was also $13,500. value fixed upon the contents, upon which there was carried $10,000. in the state insurance fund.

That the jail and residence was appraised at $16,000, and the insurance in the same fund was $12,500.

That the contents were valued at $250.00 and insurance in the same fund—$200.00.

[fol. 968] Mr. Mosier: It may be stipulated that the records in the County Clerk's office of Iron County show that Iron County assumed in 1920, Sixty thousand dollars ($60,000.00) indebtedness on the Sanitarium erected and maintained by the Counties of Iron, Ashland and Bayfield, as the share of Iron County.

Mr. F. C. CHRISTOPHERSON, recalled by plaintiff for further cross examination:

Cross-examination by Mr. Sawyer:

Q. Mr. Christopherson, showing you Defendant's Exhibit "A," I will ask you what the figures on that sheet are?

A. The figures are the daily gauge height in feet and discharge in second feet of Montreal River, at Ironwood, Michigan from March 31st to June 15, 1925.

Q. And the daily gauge heights are also given from June 15 to July 29th?

A. Yes sir.

Q. The discharge in second feet for that period has not been computed correctly on this exhibit—that is the portion that is stricken off?

A. Has not been computed, no.

Q. I show you Defendant's Exhibit "B" and ask you what that is?

A. That's a rating table of the Montreal River at Ironwood, dated August 21, 1924.

[fol. 969] Q. I show you Defendant's Exhibit 178 and ask you what that is?

A. That's a rating curve for the Montreal River at Ironwood.

Q. And that's the curve computed upon the table Defendant's Exhibit 177?

A. No, it is the rating curve upon which rating table August 21, 1924 is based.

Q. Exhibit 177 is based on Exhibit 178?

A. Yes.

Q. Defendant's Exhibit 178 shows how many measurements of the stream were used as a basis for establishing that rating curve?

A. Yes sir.

Q. Will you see how many?

A. Exhibit 178 indicates that there were twenty-three measurements made upon which the rating table was based.

Q. And what was the date of last measurement?

A. The last measurement made on this stream is dated July 28, 1825.

Q. And I ask you is that measurement in accordance with the curve?

A. No, it is not.

Q. And does it upset the curve considerably?

A. Yes.

Q. And is that the reason that the discharge in second feet from June 15th to July 29th does not appear upon Exhibit 176?

[fol. 970] A. Yes sir.

Q. You are satisfied of the accuracy of the figures as to gauge height and discharge both down to June 15th, and as to gauge height from June 15th on down, you are not?

A. No, I am not.

Q. In what respect are you not satisfied?

A. Well, in the first place, I don't think we had a very reliable gauge reader at that station.

Q. Does that occur frequently in your stream flow measurements?

A. It occurs sometimes, yes.

Q. Are you able from your work to give anything more accurate than this down to that June 15th date?

A. No.

Q. These Exhibits 176, 177, 178 were prepared by you, were they not?

A. Yes.

Q. And the computation in them is your computation?
A. Exhibits 177 and 176 were prepared by me. Exhibit 178 was prepared by several other men in our office.
Q. Several other men working under you?
A. They prepared it before I ever came there.
Q. By men that were working before you came into this district?
A. Yes sir.
Q. The last reading is yours?
A. I have plotted some measurements on Exhibit 178.
Q. And you have used Exhibit 178 in making your computations on Exhibit 176, have you not?
A. Yes.
[fol. 971] Q. And also on Exhibit 177?
A. Yes sir.

Redirect examination by Mr. Rieser:

Q. Now Mr. Christopherson you have been asked whether you have made all these measurements on Exhibit 178, and you stated you did not. Are you able to state how many you made?
A. No, I am not.
Q. Can you give approximately how many?
A. I probably made five.
Q. And the measurements that are used on that extend back as far as 1918, is that right?
A. Yes sir.
Q. And have been used for this particular station for the figures for that station ever since that time?
A. Yes. Various rating tables have been used. More than one rating table has been used.
Q. What do you mean by that?
A. Rating curve studies have been made on the basis of those measurements and the light of most recent measurements and have been used to compute the records so that more than one rating table has been used at the station.
Q. Well then, Exhibit 177 is not the rating table for the measurements that were taken prior to 1925?
A. The rating table Exhibit 177, has been used for 1924 and 1925 records.
[fol. 972] Q. Now you stated I believe that your last measurement was taken on what date?
A. July 28, 1925.
Q. And did not fit in with the curve produced by the rest of the measurements. How did you account for that?
A. The reason for that is a shift in the relation between stage and discharge, which has occurred some time this summer.
Q And how would that ordinarily come about?
A. By the growth of grass or the lodging of debris on the control, or could be by the washing out of rocks or the sun or something like that.
Q. Now from the fact that there has been very low water during

the summer months, would you say that the latter element might have caused the shift in this instance?

A. Yes, I believe due to the low water the grass has appeared.

Q. Then you mean the grass has caused the change and not in washing?

A. No, probably not.

Q. And that is you say because the water has been quite low during this period during which the shift undoubtedly occurred?

A. Yes.

Recross-examination by Mr. Sawyer:

Q. Would that shift in the relation of the stage and discharge tend to increase or decrease the total discharge, as you had figured it, before you crossed it out?

[fol. 973] A. Tend to increase the discharge at certain points and other places it might decrease it.

Q. Would it be a material change?

A. I have not computed the discharge for that period.

Q. In the measurements before, have you ever taken into account the growth of vegetation in the stream during the months when it occurs?

A. You don't take them into consideration in the measurements, you measure the discharge and establish the relation between the stage and discharge.

Q. Do you take your measurements at such a time as would indicate to you the difference between when there was vegetation and when there was not in the stream? Do you have that in mind when you take your measurements?

A. Yes, we try to get our measurements at such points as will give us the correct information.

Witness excused.

[fol. 974] Frank H. Macey, being produced as a witness on behalf of plaintiff in rebuttal, being first duly sworn, on oath testified as follows:

Direct examination by Mr. Sawyer:

Q. Mr. Macey, what is your business?

A. Consulting engineer and contractor.

Q. In which branch of engineering are you particularly interested?

A. Hydraulics.

Q. What is your experience and what are your qualifications in that line?

A. I was graduated from Cornell University, degree of civil engineer in 1910, since which time I have been connected with the New York State Conservation Commission, engaged on hydraulic investigations, and with the Department of State Engineer and

Surveyor of New York State, as Chief of the Bureau of Water Power Drainage and Stream Regulation up to 1923, since which date I have been engaged in the practice of Consulting Engineer at Rochester, New York, and my work has included supervision of stream flow measurements, compilation of hydraulic data, with reference to water power plans, design and operation of drainage works, public water supplies, etc.

Q. Have you any connection with the state of Michigan, Mr. Macey?

A. No sir.

[fol. 975] Q. You were asked to come here by counsel for the state of Michigan to advise with relation to these matters?

A. I was.

Q. Have no interest in the outcome of this lawsuit?

A. No sir.

Q. Mr. Macey, what would you say are the controlling elements in determining the main channel of a river system?

Mr. Rieser: Objected to for the reason the witness is not qualified to testify and no sufficient foundation laid.

A. I should consider the elements of discharge.

Q. And what would enter into the elements of discharge, would it be discharge at the confluence or the volume of discharge over a considerable length of the various tributaries?

A. I should speak of discharge throughout the course of the stream, the drainage area, the general direction and course of the stream.

Q. Would the course of the stream in the drainage area as to whether or not it was near the center of the drainage area, have any influence as to whether or not it was the main channel?

A. I should say it would have an influence.

Q. And would the length of the stream from source to mouth have any?

A. Yes sir.

Q. Have you in mind any instance where a river is named from source to mouth the main channel, in spite of the fact that [fol. 976] there were tributaries joining the river, which are larger than the main river above that point, and the main channel seemed to take its name from the fact that it continues straight through the drainage district?

A. I have.

Q. Will you name them?

Mr. Rieser: Objected to on the ground the witness not qualified, no sufficient foundation laid, and incompetent, irrelevant and immaterial to the issues in this case.

Mr. Sawyer: What river?

A. The Mississippi.

Q. Since you have been here in Ironwood, Mr. Macey, you have had occasion to look into the situation as to the pumpage from the mines in the two branches of the river?

A. Yes sir.

Q. What is your opinion as to whether the water pumped in that way increases the flow of the respective streams or whether it would have found its way back into the streams even if it had not been pumped?

A. I should say that a large portion of the amount which was pumped into the streams would not have been surface water in the streams under normal conditions.

Q. You have heard the reason given that the pumpage in the spring during the break-up months was an increase over the average pumpage,—is the reason why that the surface water is being pumped—what can you say as to that?

[fol. 977] A. I should say that the surface water conditions reflect during the flush month pumpage season to some percentage what would be available during that season.

Q. As a matter of fact, the fact that there is more pumpage in the spring months indicates merely that there is also more seepage then?

A. Certainly there would be more seepage.

Q. As a matter of fact, all the water precipitated on the drainage area, disappears by evaporation, seepage or run-off, and in the months of the spring break-up, both the seepage and the run-off would be increased?

A. They would be.

Q. And the fact that there is flush pumpage in the same months that there is flush discharge, would merely indicate that fact?

A. It does.

Q. And does not indicate that they are taking more surface water at that time?

Mr. Rieser: Objected to as incompetent, irrelevant and immaterial.

Question withdrawn.

Mr. Sawyer: Have you any experience Mr. Macey, as to whether or not there is sub-surface drainage under the bed of streams?

A. Yes.

Q. What can you say in that regard?

[fol. 978] A. We often find streams through which for considerable distances the entire flow disappears from the surface of the stream, to be found again further down stream in the stream bed.

Q. What is the character of the bed through which that will occur?

A. Usually glacial or alluvial deposits.

Q. Gravel?

A. Gravel.

Q. Is the bed of Spring Creek of that character as you saw it?

A. I should say the bed of Spring Creek is of such nature as to permit considerable underground flow through the channel.

Q. Have you made a check on the pumpage figures given here

to determine the total in second feet here in each branch of the river?

A. I have as I have taken those figures.

Q. And what is the discharge in second feet into the West Branch, total discharge?

Mr. Rieser: From where?

Mr. Sawyer: From pumpage in the mines?

A. I have figures 1.6 cubic feet per second discharge into the West Branch.

Q. And what is the total figure of water pumpage into the East Branch?

A. 4.7 cubic feet per second.

[fol. 979] Q. That would make an excess of water pumpage into the East Branch over the water pumpage into the West Branch of what?

A. About three cubic feet per second.

Q. Mr. Macey, have you made a comparison of the data submitted by the Wisconsin engineers at Ironwood and Gile for the purpose of determining its correctness?

A. I have.

Q. And made investigations in that regard?

A. I have.

Q. What can you tell us as to the result of that comparison and investigation?

A. The investigation of the available records discloses that the rate of run-off for the two streams in question is practically identical on the basis of square mile of drainage area.

Q. Did you find anything in checking the data to indicate it being unreliable?

A. I found nothing in the data in regard to the measurements—current meter measurements to be questioned. I examined the four gauging stations and in study in connection with the records which have been submitted of the discharge and gauge heights of these streams, I had reason to believe that there was discrepancies in the gauge heights at either the station at the mouth of the Montreal River, the East Branch and the Station at Ironwood. Upon further investigation, I believe that the records as submitted disclose this [fol. 980] discrepancy.

Q. If you will just go on now and disclose to us how that appears now from the record?

A. The gauge heights at the mouth of the Montreal River, beginning June 24, 1925, indicate a constant height of 1.44 up to and including June 30th. Upon July 1st, the gauge height decreases by .02 and in a descending scale until July 10th when a gauge height of 1.30 is shown. This gauge height is maintained for the following six days. On June 16th the gauge height of 1.28 is recorded occurring for four days. On June 28th a gauge height of 1.26 is recorded for the following seven days. The gauge heights at the East Branch at Ironwood for the same period, indicate a sudden drop in gauge height from July 2nd to July 3rd of .28 of a foot,

with an increase in gauge height on or about the 9th and 10th and various rises and falls in the gauge height during that entire period. Upon inquiry, I learned that the Montreal River, which is dammed at the lumber yard immediately above the railroad bridge and the gauge at Ironwood, was emptied during the night of July 2nd, in order to flush out the stream below. These gates were opened, according to the superintendent, at the yard, about 5:30 in the evening and were closed the next morning prior to the time that the next gauge height was taken.

[fol. 981] The record discloses that little or no flow occurred in the stream furing the next succeeding day or two, but the record at the mouth of the Montreal does not show a sudden drop off corresponding to the drop off in the gauge at Ironwood. My conclusion is that the records at the mouth do not reflect correctly the flow in the river.

Q. What is your conclusion as to whether or not that guage heights given at the mouth of the East Branch over that period of time are accurate, or whether they are fabricated by the gauge reader?

A. The fact that the gauge heights show no variation would indicate that the gauge had not been read every day, unless the gauge reader was very lucky in striking the gauge at a time when the same elevation was shown.

Q. The gauge readings at the confluence would indicate over that period a much larger flow than you think actually occurred at that time on the East Branch?

A. Yes, on the date of July 3rd.

Q. And as a matter of fact that continues for a few days afterwards?

A. Yes.

Q. Does the discharge at the Ironwood Station, as compared with the discharge of the East Branch as shown on that hydrograph during the periods of those two floods, maintain the same ratio as it does during the balance of the gauging season?

[fol. 982] A. As far as the peak shown on the hydrograph, they don't.

Q. Referring to Defendant's Exhibits 358 and 358-a, the weekly mean discharge, I ask you whether or not the exhibits showing the weekly discharge, fairly reflect the discharge of these two streams on a percentage basis?

A. They don't in my opinion.

Q. Have you made any computation to explain why they do not fairly reflect the relation?

A. The percentages as shown on the exhibit indicate that during those weeks of the record, that the flow of the West Branch exceeds that of the east, whereas eighteen weeks show that the East Branch exceeds the west by a considerable amount; whereas the mean of the entire period would show a discrepancy variation of only about five percent.

Q. Would that variation be within a possible error in measurements?

A. It might well be.

Q. Did you make any computation by the elimination of any periods which would change the result?

A. I did; eliminating the few days of the record in June and December, including only the months of July, August, September, October and November, the percent of the Montreal discharge to the West Branch discharge would be 103.6 percent and by further eliminating the month of July, the percentage would be 100.7 percent.

[fol. 983] Q. And might the addition of one week where the West Branch was exceeding the East Branch during any one of these six weeks, show the West Branch the bigger?

A. It very easily could.

Q. So as a matter of fact that hydrograph does not correctly reflect the size of the stream?

A. Not for any length of time; not for any other time than the specific weeks for which the hydrograph is made.

Q. From your examinations and investigations here, what is your conclusion in regard to the relative size of these two streams?

A. I have no opinion as to the relative sizes of the streams.

Q. What is your conclusion of the efforts that have been made to measure them?

A. I would state that in my opinion the available records indicate that the yield of the two water-sheds per square mile of their drainage arears, so far as they are known, are so nearly equal that it would require more careful and extensive measurements than have been made to ascertain which of them produces the greater run-off.

Q. Considering the other characteristics of the two rivers, the characteristics which you mention as being and controlling the main channel, which of these two rivers would you say was the main channel of the Montreal River,—that is the characteristics as to volume over entire distance, position in drainage area, etc?

[fol. 984] Mr. Rieser: Objected to as incompetent, irrelevant and immaterial, calling for legal conclusion, that it assumes that a main artery instead of a main channel was in contemplation for the boundary division and is based upon an improper construction of the boundary line definition, and is incompetent, irrelevant and immaterial and it also assumes that at the time of the definition of the boundary, there was no Montreal river known, contrary to the showing of the record in this case.

A. I am afraid I can't answer that question, because I have not examined all of those characteristics.

Mr. Sawyer:

Q. There hasn't been any objection that you haven't personally examined it. From what you have heard what would you say?

Mr. Rieser: Objected to as calling for hearsay.

Mr. Sawyer: From your knowledge of the river as shown on the map, as disclosing the other characteristics, what can you say?

A. I could venture such an opinion if I saw the map.

Q. Referring to Defendant's Exhibit 377 as delineating the drainage area in general and calling your attention to the relative discharge in the measurements at Gile and Ironwood, as shown in the data furnished, and the testimony of witnesses, that the Spring Creek drainage area affects the drainage area only for a mile or so, I again ask you considering all those things, what do you consider the main channel of the Montreal River?

[fol. 985] A. I don't believe I can from this map.

Q. Can you from the regular drainage area map?

A. I could state my opinion from the regular drainage area more readily.

Q. Have you examined the drainage area map?

A. I have.

Q. What is your position now Mr. Macey, as to whether or not you wish to express any opinion as to which branch of the Montreal River is the main channel?

Mr. Rieser: Objected to for the reason the witness is not properly qualified.

A. Due to the fact that I have not examined the entire watershed and the entire length of these streams, I do not care to express my opinion.

Cross-examination by Mr. Rieser:

Q. From that would you say then Mr. Macey, that the conditions existing in these two streams make them so nearly equal in size that on your theory as to the different elements that have to be considered in determining the main channel, a very long and extended and detailed study of both drainage areas, streams and conditions in the areas would have to be made?

A. I would not care to express an opinion on that, as to how long such a study would have to be.

Q. But there would have to be one of considerable length made?

A. Not necessarily.

[fol. 986] Q. Well, could a man in a day's study arrive at a conclusion?

A. I think it possible.

Q. You have been around here now for pretty nearly a week, haven't you?

A. Yes.

Q. You have been here for the purpose of giving counsel as to the relative size of these two streams?

A. No sir.

Q. And to advise the Michigan counsel with reference to the relative size of those two streams?

A. I don't believe so.

Q. Haven't you ever been asked prior to going on the stand here this evening, what is your opinion in that respect?

A. No sir.

Q. Has that question ever been discussed throughout the period of the last few days?

A. No, sir.

Q. It is a fact that last Saturday, nearly a week ago, you did come here and did go to the confluence of the two streams and conducted an inquiry, and from that time on have examined at considerable, length, the various records that have been offered in evidence in this case; isn't that true?

A. I examined certain records purely for hydraulic purposes.

Q. And you have had available all the hydraulic records that you have asked for?

[fol. 987] A. In regard to these two streams, yes sir.

Q. Now with reference to the effect of the opening of the dam that you have just referred to, it is also true that neither Ironwood or the Confluence show any difference in the run-off during the time that that runoff occurred?

A. The station at Ironwood does.

Q. Does it show that the flow was increased?

A. It does not.

Q. At Ironwood?

A. It does not.

Q. Neither does it at the confluence?

A. It does not.

Q. Now, it is also true that assuming the readings at Ironwood and at the mouth of the Montreal to have been correct for the few days preceding the opening of that dam, that then these records do in no way give the Montreal credit for the increased flow produced by the opening of that dam?

A. The records don't give the flow any increase due to the dam, no sir.

Q. What is that?

A. The records do not give the Montreal River any increased flow during that period, nor they don't show the decrease in flow either.

Q. Now where did you get the pumpage from the two streams upon which you based your per second feet of computation?

A. From Mr. Rupp.

[fol. 988] Q. And what was that in gallons?

A. On the West Branch 736 gallons per minute.

Q. And have you got that from the different mines?

A. Yes sir.

Q. Will you give us that?

A. Ottawa—275; Carey 70; Montreal—391.

Q. And what does that represent, an average?

A. An average figure, yes.

Q. For what period or how long a period?

A. Over a period of a year or up to three years I believe.

Q. Now, what about the Montreal?

A. I just gave you the Montreal.

Q. I thought that was the West Branch?

A. You mean the East Branch?

Q. Yes?

A. The Norrey Mines 425 gallons per minute; Pabst Aurora 156; a total of 581 gallons. Newport 275; Davis—244; Puritan—137. And steady pumping 1300 thousand gallons per day, making a total, which I have reduced to cubic feet per second of 4.73.

Q. Then you have assumed, have you not, that none of that pumpage was surface water in your computation?

A. That's an average for a year and includes a little surface water.

Q. You have included also in that the pumpage of the City of Ironwood and have assumed that that was not surface water?

[fol. 989] A. Not all of it.

Q. Well, what portion of that estimate was surface water?

A. In this comparison, I have not separated the surface and underground water.

Q. Have you made any study of the conditions in the area so as to be able to determine what part was surface water, either from the mines or from the mains and what part is not?

A. The portions of the mines during the flush months April, May and June or thereabouts, I assume that approximately one-third of that amount is surface water.

Q. And of the city pumpage?

A. During the course of the year I would say that from a third to a half was surface water.

Q. And on what information do you base that estimate?

A. I base that estimate on the yield of the stream upon which the pumping station is located and the amount of water that they pumped.

Q. Did you measure the amount of flow in that stream at the present time above the pumping station?

A. No, I did not.

Q. Have you any idea how much that flows?

A. I used a figure in my mind for an average yield of the watershed as a whole, which I consider is a conservative figure for that small stream.

[fol. 990] Q. Isn't this true, however, that if part of the water that is pumped by the city of Ironwood is not surface water, during times when there is very little flow on Spring Creek above the dikes and the pumping station, whether that would not ordinarily come to the surface, would then be used principally, and during flush flow more surface water would be used?

A. Oh yes.

Q. So that if at the present time the flow in Spring Creek above the dikes is equal to the pumpage or very nearly equal to it, would that lead you to conclude that practically all the pumpage was surface water?

A. Surface water and pumpage water from the mines.

Q. And have you any way of determining how much of that water would be pumpage water from the mines?

A. The pumpage of the mines into Spring Creek above the station would be nearly one and a half cubic feet per second.

Q. Now in order to determine fully just what the situation is and

how much of that pumpage is surface water and how much of it is not, it would be necessary to have figures as to the flow of Spring Creek above this dike prior to the contribution of pumpage by the mines?

A. Absolutely.

[fol. 991] Q. And until then, the matter of determining how much is water which would not ordinarily come to the surface and how much is surface water, is no more than a mere guess?

A. It cannot be exactly determined, I admit that, but an approximation can be made. I wouldn't say it was a mere guess. To get the definite amount would require more careful measurement.

Q. But in making your calculations of the amount of the contribution to the West Branch and the amount of contribution to the main Montreal, you have taken the entire pumpage in each district and have not given any credit for surface water?

A. No, I have not.

Q. Isn't it your conclusion from your study that the water pumped by the city is largely mine water?

A. It would appear that fifty percent of it was at any rate.

Q. At the very minimum?

A. Yes.

Q. And it might be 75%?

A. Yes, it might be 75%.

Q. And to that extent in computing the mine and in computing also the city pumpage, you have doubled the pumpage in the Montreal River, have used it twice?

A. I have not doubled the pumpage because I have not applied those figures; I have stated merely the amount of the pumpage.

[fol. 992] Q. You have used it twice?

A. The pumpage appears twice.

Q. As a matter of fact you have taken first the pumpage from the mines that flows into the dikes from which the city pumps, and then you have taken also the pumpage by the city and have not deducted from that the pumpage which you have already added in as coming from the mines?

A. That's true.

Q. So that your total then of pumpage, includes this double element we have referred to and also the surface water which would naturally go down the Montreal River valley?

A. The proportion of the city water which was surface water?

Q. Yes.

A. Yes.

Q. Mr. Macey, will you give us what the pumpage would be into the two river basins?

A. Net pumpage?

Q. Net pumpage would be in the two river basins, deducting the pumpage that would necessarily run into the areas from the surface naturally?

Mr. Sawyer: Objected to on the ground it is not shown that any would necessarily run into—any stated amount would necessarily run into it.

[fol. 993] Mr. Rieser: You have stated that a third to a half of the pumpage by the city of Ironwood, would go down the Montreal Valley—now deducting that amount from those figures and deducting also the amount from the pumpage from the other mines, will you give us what the amount of pumpage into the two streams would be, which would not otherwise go into those streams?

A. Taking into consideration those factors, I would say that the pumpage in the East Branch would be three cubic feet per second and in the West Branch one and one-quarter cubic feet per second.

Q. And in arriving at those figures, how much did you deduct from the pumpage by the city of Ironwood?

A. Fifty per cent.

Q. And how much from the pumpage of the various mines?

A. Twenty per cent. That is on the basis of the increase during the three months.

Q. But that still leaves in the figures the element of duplication?

A. No, I have deducted that. Oh, I beg your pardon, I didn't. That would alter that 2 second feet; in the 1¼—Let me arrive at that another way. 1¼ second feet for the West Branch and 2¼ for the East Branch.

Q. Now are you acquainted at all with the geology in this vicinity here?

A. I have made no particular study of it.

Q. And in order to determine definitely and exactly just how much [fol. 994] of the water that is pumped, would or would not naturally come to the surface, one would have to make quite an extensive study?

A. You would have to make a very extensive study to know exactly, yes. I have inquired into the geology upon visiting the various mines, ascertained their depths and arrived at my conclusions from that information.

Q. In other words, you have based it entirely on matter of depth?

A. Depth and geological conditions as I have visited the mine.

Q. What geological conditions did you take into consideration, Mr. Macey?

A. The fact that this water is pumped from the level which it is pumped and the fact that there are barriers to the flow of this water indicate that the water is pumped from such an elevation that the source, while all from surface water at some point, nevertheless the exact point where that water finds its source is not known.

Q. And for that reason, you wouldn't be able to tell then whether that water would or would not have come back into that drainage area, would you, because you don't know the source?

A. I don't believe it would go back into that area, into that drainage area again, due to the fact of the level from which it was pumped. [fol. 995] Q. But isn't it a fact that one reason why it goes to that level from which it is pumped is because the pumpage has so reduced the ground water level that there is an increased seepage and that causes that water to be lower than if the original condition had been allowed to exist?

A. My understanding is that that water reduces these levels through not only faults and long cle-vages, and also through the rock itself in certain cases.

Q. If that's true, then it is your theory that that water which is pumped from these mines is all surface water?

A. Originally, yes.

Q. Originally surface water that has trickled and percolated along these various barriers and through this rock?

A. Yes sir.

Q. Then why if that is true, would it be necessary to do any pumping unless the seepage has been increased by the reason of the opening of that mine and the pumping?

A. The water would, of course, stay in its natural state were the mine not opened up and it made necessary to pump out the water from that mine. My understanding is that the pumping of the water table in one mine does not affect the water table in another mine. It might immediately adjoining but not at some distance.

Q. In other words, you would run out of water entirely in your mine with pumping, were it not for the fact that the water is contributed from the surface?

A. Why of course, that's true, or from some other underground [fol. 996] source.

Q. This is also true, that that seepage is necessarily increased by reason of the fact that there is no resistance to the seepage when the underground or ground level water is withdrawn?

A. I think that's a refinement.

Q. Isn't that a necessary element to be considered in determining whether this water would or would not come back into this drainage area?

A. I don't think so.

Q. And you say that the porous conditions through which this water seeps or any other conditions——

A. I haven't made an exact study——

Q. And in order to tell the exact extent of withdrawing of the ground water, we would have to make necessarily an extensive study to see how porous the earth was through which this water seeps and a lot of other things?

A. I am not placing myself as an expert on mining.

Q. And for that reason, you are also unable to give any very careful or reliable information as to the amount of this water that would come back into this drainage area and the amount that would not?

A. I am expressing an opinion as an engineer and not as a geologist.

Q. Now then you say that along Spring Creek, the conditions are such that there would be a lot of underground drainage?

[fol. 997] A. I don't believe I said so.

Q. Well, what did you say—or sub-surface drainage?

A. In reference to Spring Creek?

Q. You said there would be some sub-surface drainage in Spring Creek?

Mr. Sawyer: Along that portion of it which is dry.
Mr. Rieser: No, he didn't qualify that.

A. I don't believe I testified with regard to Spring Creek.
Mr. Rieser: All right. You also testified that the Mississippi river was one of the rivers in which the main channel of the river was named without respect to the branches that lead into it as it goes along down the main valley?

Mr. Sawyer: I object to that as clearly not what he did state in relation to the Mississippi river.

(Question read): You also testified that the Mississippi river was one of the rivers in which the main channel of the river was named without respect to the branches that lead into it as it goes along down the main valley?
A. I don't comprehend the question.
Q. Well, what did you say, let's have it once more?
A. The record will show that I can tell you what I was getting at. I believe I stated that the Mississippi was an example of a stream, where the name of the river was given to a branch of the stream and tributaries, to a portion of that stream which was shorter, and which contained a less drainage area above the confluence of one of its mouths.
[fol. 998] Q. And by that you mean the Missouri river?
A. Missouri river.
Q. That is that the Missouri river contains more drainage area and is longer than the Mississippi?
A. Yes sir.
Q. And also a larger stream at its mouth?
A. I wouldn't say as to the larger stream.
Q. As a matter of fact you also know that the channel of the Mississippi River was not determined or the name applied to that particular branch you have referred to with regard to any of those factors?
A. I didn't so state.
Q. That is a fact?
A. I don't know that that is the fact.
Q. Don't you know that the Mississippi River was first named at the upper end of it?
A. I am taking the present name of the stream.
Q. Now you referred to the hydrograph here Exhibit 357-a, and I believe you stated that the peak shown between April 20th and 30th, shown at the mouth of the Montreal River, wa not reflected at the gauging station at Ironwood, is that right?
A. As to ratios of drainage areas; that is there was not a direct relation in the drainage area or ratio between the peak of the flood at Ironwood and the peak of the flood at the mouth.
[fol. 999] Q. Then that would indicate that there was probably, or might have been more rainfall below the gauging station at Ironwood than above?
A. It would be if the readings are correct.

Q. Assuming the readings to be correct, then the only other way you explain it would be that there was more rainfall below the gauging station than above it?

A. Yes, that's true.

Q. Then you have stated also that the comparison of weekly averages was not fair, and that a person could pick out certain weeks in the West Branch and show that the West Branch was flowing a good deal more water than the East Branch, is that right?

A. Yes sir.

Q. It is also true that they could likewise take a certain group of averages in the East Branch and make a decidedly better showing than in the West Branch?

A. Yes sir.

Q. Then what do you say about the monthly averages reflecting a fairly correct condition of the averages in those two streams?

A. I think it would be more fair, the longer the period, the more fair the result would be.

Q. And you knew that there was an exhibit on monthly flow in the record?

A. Not at the time I made my comparison.

Q. Then by examining it, isn't it a fact that the monthly [fol. 1000] acerage shows the main Montreal to be larger proportionately than the weekly flow did?

A. I don't believe so.

Q. Will you just look and see?

Calling your attention to this fact,—it is true that on the monthly averages, there was only one month during which the flow in the West Branch exceeded the flow in the East Branch, while on the comparison of weekly averages, there were four such periods.

A. I have never seen the comparison on a monthly basis and I wouldn't be prepared to say without further examination.

Q. How long did you estimate it would take for the increased flow caused by the opening of the dam that you have referred to, to be reflected at the confluence of the two streams of the West Branch and the Montreal River?

A. I would not be able to give an opinion until I knew the fall and the length of the stream.

Q. Isn't it a fact that during the month of July, 1925, there has been practically 100% decrease in the flow between the first of July and the flow ten days later?

A. The records show that, yes sir, at the mouth.

Q. At the mouth?

A. Yes sir.

[1001] Redirect examination by Mr. Sawyer:

Q. Isn't it apparent from the records at Ironwood that most of the flow from the opening of that dam passed out between the readings during the night, the first night of the discharge?

A. I did.

Q Does that explain why the records at Ironwood do not show any increase by reason of that discharge—that opening of the dam?

A. The gauge heights at Ironwood showed that the flow in the river was cut down by reason of the closure of the gates the next morning, which the gaugings at the mouth do not show for over some considerable days after that period.

Q. Can you safely say that the peak from the opening of that dam would have passed the confluence within two days?

A. Absolutely.

Q. And the restrictions from the closing of the pond would have reached there within two days?

A. Far sooner than that.

Q. In considerably less than one day?

A. Yes, in less time than that.

Q. Referring to Defendant's Exhibit 357-a and your statement on cross-examination, that the variance in discharge at Ironwood and the East Branch at the confluence, could only be explained by the [fol. 1002] variation in rainfall or by mistaken gauge readings,—was the variation such that you think it could be explained by rainfall or be more apt to be brought about by gauge readings?

A. Not having examined the rainfall or conditions surrounding that rise of stage, and knowing that there appears to be a discrepancy in the gauge readings, I would be inclined to attribute such a variation to discrepancy in the gauge readings.

Q. And wouldn't the unevenness in the rainfall account for that difference more than is ordinary?

Mr. Rieser: Objected to, the witness has not qualified himself.

Mr. Sawyer: Considering the discharge of these streams per square mile on an average?

A. The size of that flow would indicate that it was caused by rainfall of considerable extent in the watershed.

Mr. Mosier: That is, if it was caused by rain fall?

A. I didn't state that.

Q. That was what you meant?

A. That it was—I will accept that correction.

By Mr. Rieser: As a matter of fact the records at Gile would indicate a very heavy precipitation there?

A. I haven't examined them.

Q. Now you say also that you think the effect of the opening of the gates at the time that you have referred to would be reflected at the confluence of the West Branch and the Montreal River in a good deal less than a day?

[fol. 1003] A. Yes sir.

Q. Would you say that it would be probably in eight hours or so?

A. I wouldn't care to fix it at less than a day; it might be two or three hours.

Q. Then you would fix it anywhere from two or three hours to one day?

A. At least within those reasonable ranges.

Q. And for that reason, it might well be that it would pass through—the effect of it would pass the confluence between readings?

A. Not the diminishing of the stream flow, because that extends over a period of more than a day.

Q. This is also true, isn't it, that the pick-up as a result of the opening of that dam would be a good deal quicker than the diminishing of the flow by reason of the fact that the dam was closed?

A. The period of filling that dam was longer than the period of depletion.

Q. Of the depletion of the dam?

A. Yes sir.

Q. The period of depletion of the effect of the opening of the dam down the valley, would be slower than the period of pickup down that valley?

A. It would be retarded in the same ratio with the rate of movement of that water.

[fol. 1004] Q. The effect of opening that dam would be to kind of pile up the water in various low places along the way?

A. Yes sir.

Q. And then as the water run off, it would run off very gradually?

A. There would be certain pondage in that area.

Q. And that would result in the gradual decrease in the flowage at the mouth?

A. To a certain extent.

Q. And to what extent that would be, it would be impossible for you to state now, without a more extensive study of the conditions along the course from Ironwood down to the confluence?

A. Not in this case. A mere examination of the conditions as they exist and the gauge heights would give an opinion, would give data enough to form an opinion, that there would have been a drop in the gauge heights at the mouth.

Q. How soon?

A. Within the course of the day and for a period of a couple of days after the gates were closed at the dam.

Q. And what day did you say that the dam was opened?

A. On the evening of the second of July.

Q. Do you know how long it took to refill that dam?

A. The gauge heights would indicate that it took several days. I talked with the yard superintendent who told me that he advised the men to let out such water and not any more than the quantity that they could replenish on the third, fourth and fifth.

[fol. 1005] Q. What was the name of that foreman?

A. Mr. Wing, the Superintendent.

Mr. Rieser: It is agreed that any objections heretofore entered on the ground that they were hearsay, in this record, by plaintiff or defendant, with reference to the pumpage figures are withdrawn.

By Mr. Sawyer:

Q. Speaking again Mr. Macey of this discrepancy in the gauge readings between the Ironwood station and the station at the mouth

of the East Branch early in July, I ask you whether or not the cubic feet per second being discharged in the continued period when the gauge readings were not lowered at the confluence, could in any way be accounted for, except that the gauge readings must have been wrong, comparing it with the gauge readings at Ironwood?

A. It cannot.

Q. I further ask you if, following down to the 9th and 10th, there is a recovery on the gauge readings at Ironwood, is that reflected by the gauge readings at the confluence?

A. It is not.

Q. That's all.

Mr. Rieser: If the gauge readings at Ironwood were wrong, say the conditions were such that they were not properly read, then the [fol. 1006] readings at the confluence might be right? There is an error in one, which does not prove an error in the other necessarily?

A. There might be an error in the readings at Ironwood, but the readings at Ironwood reflect the conditions that existed on the second and third of July in my opinion; as to what they reflect over the entire period I wouldn't say.

Q. If, however, the gauge readings were in error at Ironwood that might not account for the difference that you have referred to as existing between the two gauging places?

A. In my opinion either one or the other of the gauge readings is in error.

Mr. Sawyer: And have you any reason for having an opinion as to which one was in error?

A. I have reasons to believe that the gauge reading at the junction is in error at the time indicated.

Q. Because the other does reflect conditions which we have learned did exist?

A. Yes sir.

Q. Have you any other reason?

A. I have.

Q. What is your other reason?

A. Why, the reason I have to believe that the gauge at the junction, the readings are in error is the fact that upon visiting this gauge at the time of my first visit, I did not see any evidence of any [fol. 1007] travel in the trail that lead to the gauge for some considerable time and it was the thing that led me to a study of the comparison of the record of these two gauges, and furthermore the gauges are so marked with scum that I had to clean them off in order to read them accurately.

Q. And how long would it take that scum to gather?

A. I believe it would have taken more than a week because I visited the place again to-day and found it was still clean.

Mr. Rieser: Didn't you as a matter of fact, ask the gauge reader what the reading was that day before you went to the gauge?

A. At the West Branch I asked him what the reading was. He read it before I did.

Q. But at the other place you asked him before you got there?

A. I don't recall.

Q. Didn't you as a matter of fact say that you asked him for it and that he gave it to you correctly?

A. He gave me the reading at the West Branch gauge correctly because he preceded me down the path and read it and I remarked it at the time that he had good eye sight if he could read that gauge, because I couldn't.

Q. But he had it correct?

A. Yes sir.

[fol. 1008] Q. So that not having that especially good eyesight might account for the fact that you couldn't read through the scum at the other place and he could?

A. That might be so.

Q. Have you any idea how much water would be withdrawn from that dam under the conditions which the foreman described to you?

A. In cubic feet per second?

Q. Yes?

A. No, I have not.

Q. Isn't it a matter of fact that there is such a small amount, that by the time it would spread out on its way down, it would have very little, if any effect on the lower gauge height?

A. That may well be, but I have not testified that it would have any effect on increasing the height at the lower gauge.

Mr. Sawyer: It is the restriction when the pond is closed, which would reflect on the gauge?

A. It is.

Mr. Rieser: Isn't it true also, immediately after the gate was closed in that dam, there is every indication that there was considerable flow at the gauge station at Ironwood, that a considerable flow continued, as is indicated by the gauge readings?

A. I should say as indicated by the gauge readings, about thirty per cent of that water was flowing of the flow on the prior day.

[fol. 1009] Q. Then of course, there is all the contribution along the line down to the confluence?

A. Oh yes.

Q. And also the further fact, the water which would probably fill in the lagoons and swamps and so forth along the way down would be gradually drawing out and thereby would keep the gauge readings very nearly normal?

A. I cannot assume that there was very little increase in the flow, and also assume that there was a large filling in of pools.

Q. Did you investigate the pumpage at Ironwood to see how much Spring Creek was contributing at that time?

A. I was not here at that time.

Q. And you did not get any record by which you could determine that fact?

A. No.

Witness excused.

[fol. 1010] [Title omitted]

STIPULATION RE TAXES

It is stipulated, That Defendant's Exhibits 371, 372 and 373 are correct copies of corresponding entries of the records of counties organized in the state of Wisconsin, as Oneida, Lincoln, Vilas, Ashland, Iron, Door and Brown Counties, and that in so far as these exhibits purport to furnish information in relation to the taxation of lands in those counties by the state of Wisconsin, they are correct; and that as to Oneida, Lincoln and Vilas counties, of which the exhibits shown furnish an incomplete record as to the disputed area in said counties, that taxation by Wisconsin was first made in 1874 of lands theretofore sold by the federal government to private persons and progressed thereafter as further lands in said area were so sold, up to the year December 1st, 1886, at which time the final description within said disputed area was added to the tax rolls and that thereafter taxation continued to the present day, with such occasional lapses by reason of irregularities in the assessment as are shown by such records and said exhibits.

Dated at Hurley, Wis., Aug. 1st, 1925.

State of Michigan, by Andrew B. Dougherty, Attorney General. Meredith P. Sawyer, Special. State of Wisconsin, by Herman L. Ekern, Attorney General. R. M. Rieser, Special Counsel.

[fol. 1011] [Title omitted]

Pursuant to agreement entered into by counsel for plaintiff and defendant above mentioned, the taking of further testimony in the foregoing entitled cause was continued on the 2nd day of October, 1925, at 10 A. M., at the Capitol, at Lansing, Michigan, in the office of Attorney General Andrew B. Dougherty, before Mrs. Margaret M. Hoit, of Superior, Wisconsin, Special Commissioner appointed by said court in said cause.

APPEARANCES

Andrew B. Dougherty, Esq., Attorney General, for Michigan; Meredith P. Sawyer, Esq., special counsel for plaintiff, of Menominee, Michigan, and Carl D. Mosier, Esq., Assistant Attorney General, of Lansing, Michigan, for plaintiff.

Robert M. Rieser, Esq., special counsel for defendant, of Madison, Wisconsin.

[fol. 1012] STIPULATION RE DAVIS REPORT

Mr. Mosier: It is stipulated, that the report signed by J. B. Davis, Defendant's Exhibit "380" shall be admitted in evidence without further identification, subject to the objections hereinaftery specified; that such report was made by J. B. Davis, an engineer and professor of engineering, in the University of Michigan, now deceased, to Judge Bird, as Attorney General of Michigan, in 1909, as representing the conclusions of said Davis, following the investigations undertaken by him and covering the territory embraced in such report; that the attached communications and resolutions of the Michigan Senate and House referred to in said report from Davis to Judge Bird, and the report requested by resolution of the Senate from Judge Bird, was never made or filed; and that so far as Judge Bird formed any conclusions on the subject, they were those of the Davis report.

That the Davis report referred to in the stipulation is the same report as that referred to in the Cross Examination of Meredith P. Sawyer in this record.

Mr. Sawyer: The plaintiff objects to the introduction and consideration of the Davis report, for the reason that it is a privileged communication from an employee of the Attorney General to the Attorney General, and it is not a public record, but solely a confidential memorandum in the office of the Attorney General, and might or might not have been the basis of a report which was never made.

[fol. 1013] CERTIFICATE OF SPECIAL COMMISSIONER

I, Margaret M. Hoit, duly appointed by the Supreme Court of the United States as Special Commissioner in the case of the State of Michigan vs. the State of Wisconsin, Original No. 19, on the October Term, 1925, to take the proofs offered by the respective parties to said cause, and to report such proofs to said Court, do hereby certify that the foregoing written transcript, comprising 1012 pages, pages 1 to 279 inclusive being Volume I, and pages 280 to 1012, both inclusive, being Volume II, is the transcript of the evidence offered by the plaintiff and defendant in the cause before me as such Commissioner and before the Hon. Conway Elder, Special Commissioner, serving prior to my appointment; that all rulings made at the hearing appear in such transcript; that the witnesses appearing before me were by me sworn to testify the whole truth touching the matter in respect to which they testified, and the witnesses appearing before said Conway Elder were likewise so sworn, as appears from the certificate of such Conway Elder attached to this return; that the testimony of the witnesses appearing before me was taken in shorthand by me, and afterwards transcribed by me into typewriting, and that the said transcripts of the evidence so taken before me are complete and contain all evidence of witnesses given before me.

[fol. 1014] That there is also hereto attached the deposition of Clarence M. Burton of Detroit, Michigan, taken before a Notary Public, in that city, pursuant to a stipulation which was offered by agreement of the parties, as part of the evidence and record in this proceeding, and is accordingly returned herewith.

There is also returned herewith the exhibits identified by the annexed and attached stipulations prepared by the respective parties, covering the respective exhibits submitted by them, and that all of said exhibits were offered in evidence before me and received as part of the record pursuant to the stipulations attached hereto, and that the foregoing constitute the whole and entire record of proceedings in this matter, and said transcript, exhibits and deposition are returned herewith as the record in this proceeding.

In testimony whereof, I have hereunto set my hand at Superior, Wisconsin, this 2nd day of November, 1925.

Margaret M. Hoit, Special Commissioner.

[fol. 1015] IN SUPREME COURT OF UNITED STATES

[Title omitted]

Testimony of Clarence M. Burton, a witness on the part of the plaintiff, taken before Millicent L. Newland, a notary public in and for the county of Wayne and State of Michigan, at the Detroit Public Library, in the city of Detroit, on the 13th day of November, 1924, at 2:30 p. m., pursuant to stipulation between the parties hereto, said testimony to be used on the hearing of said cause.

Said witness having been first duly sworn to testify the truth, the whole truth, and nothing but the truth regarding the matters in issue between the parties hereto, testified as follows:

(Examination by A. L. Sawyer, special counsel for plaintiff; R. M. Reiser, special counsel for defendant, being present.)

It is agreed that any and all objections, except as to the right to take the testimony at this time before the notary public, may be taken hereafter as though made at the time of the taking of this deposition, and as if made after any question to which objection may be made or as if objection were made to any answer considered objectionable by either party.

[fol. 1016] Q. Mr. Burton, will you please state your name and occupation?

A. Clarence M. Burton, Detroit, engaged in making abstracts of land titles.

Q. How long have you resided and been in business in Detroit?

A. Over 50 years.

Q. Have you, in any way, been associated in historical work connected with Michigan history, and if so, to what extent?

A. I have made it my life study and have been engaged in it ever since I left college at the age of 19 years. I have been a collector of historical material relative to the history of our state and have accumulated a great quantity of material on that subject of all kinds, manuscripts, printed matter, maps.

Q. Does your collection include maps of both Michigan and Wisconsin?

A. I have collected everything regarding Michigan and Wisconsin I could find.

Q. Has your collection any name; if so, what?

A. It now forms a part of the Detroit Public Library under the name of the Burton Historical Collection.

Q. Did you have any connection with the Michigan Constitutional Convention of 1907 and 8, and if so, what?

A. I was a member of that convention and was chairman of the committee on boundary lines.

Q. Noting the description of the boundary in that constitution, as pertaining to the Montreal River section of the boundary, being different in wording from that of the former constitution, can you tell why there was a difference in wording of that description?

[fol. 1017] A. I knew that for a year or two, preceding the convention of 1907, there was a question where the boundary line between the states was located in the district of the Montreal River, and when I was appointed on the committee I took the matter up with the attorney general of Michigan to determine as well as we could what the boundary line should be.

Q. I will ask you, up to and before a year or so before that time, did you know there was any error in the location of the boundary, or any dispute regarding it?

A. No.

Q. At that time did you know of, or had you heard of any claimed errors in the location of the boundary, other than in the location of the immediate Montreal section?

A. No.

Q. I will show you a map marked plaintiff's exhibit 8, marked 1 and 2, certified to be a copy of a map in the Library of Congress, and which copy is indorsed, "map of the Territory of Wisconsin, By David H. Burr, draftsman to the House of Rep's, U. S. 1836." I will ask you whether or not at the time of the Constitutional Convention in 1907, you had seen a copy of that map or a duplicate thereof?

A. No. I had never seen or heard of this map at that time.

Q. Do you remember when you first saw it, or when it was called to your attention?

A. I think Mr. Sawyer first called it to my attention.

[fol. 1018] Q. Did you, at that time, have, or had called to your attention especially, any map showing the lakes between the headwaters of the Montreal and Menominee Rivers called Lakes of the Deserts?

A. No maps showing any details of any such lakes.

Q. I will also show you a map indorsed plaintiff's exhibit 9, which

plaintiff offers as a photostat copy of an original in the Library of Congress, and which map is indorsed "map of the northern parts of Ohio, Indiana, and Illinois, with Michigan and that part of the Wisconsin territory lying east of the Mississippi River, by David H. Burr, draftsman to the House of Rep's U. S. 1836," and I will ask you whether before that Constitutional Convention you ever saw that map or a copy thereof.

A. No.

Q. Do you remember the first time you saw it, or who showed it to you?

A. It was shown to me by Mr. Sawyer, recently.

Q. During that convention did that committee on boundary have more or less discussion on the wording of the boundary?

A. Yes. We had a number of meetings and went over the matter as thoroughly as we could, with what information we had.

Q. Did that discussion include any mention, by any memeber of the committee, or any member of the convention, as to there having been more than one lake known as the Lakes of the Desert?

A. No.

[fol. 1019] Cross-examination by Mr. Reiser:

Q. The object of charging the phraseology or definition of the section of the boundary line in the vicinity of the Montreal River, was expressed by you in explaining the purpose of the amendment to the constitution to the convention in practically these words: It is probably inserted, and for the purpose of having such influence as it might upon any settlement that we may enter into with the state of Wisconsin, do you recall what was substantially said?

A. Yes.

Q. And you there expressed the sentiment of the committee, I assume, when you made that explanation?

A. Yes, sir.

A. And that was the only part of the boundary, as far as the boundary is concerned between Michigan and Wisconsin, is the only part that was discussed by the committee?

A. Yes. So far as I recollect the understanding was that there was no dispute between any other part of the boundary.

Q. Through whom did you hear that there was a dispute as to the boundary line of the Montreal River?

A. I cannot recall this; in fact I think it did not come from any single source but was rather little items that appeared from time to time in the papers.

Q. Do you recall whether George H. Cannon had anything to do with the wording?

A. I do not recall whether I talked to Mr. Cannon about it or not.

Q. Mr. Burton, do you understand that the lakes that feed the Montreal River, both branches, were part of the Lakes of the Desert?

[fol. 1020] A. I had no knowledge on that point at the time of the Constitutional Convention.

Redirect examination:

Q. Do you recall whether or not at that time of the discussion by the Constitutional Convention committee of the boundary, you had heard, or knew that Michigan sent a representative in an attempt to negotiate an agreement with Wisconsin on the boundary, sent Peter White as a representative?

A. I believe I knew negotiations were pending. I do not believe I ever talked with Mr. White on the subject.

Q. State whether or not it was discussed at that time. It was important because of the failure to agree on the proper construction of the boundary. It was proper to state Michigan's position in the new constitution.

A. I think my idea is fully expressed in the report that was read from the debates in the convention; that is, that Michigan had come to the point where it must assert what it expected to obtain and there was no way of asserting it except in the constitution.

Clarence M. Burton.

STATE OF MICHIGAN,
County of Wayne, ss:

I, Millicent L. Newland, a Notary Public in and for said County, do hereby certify that on the 13th day of November, 1924, at the Burton Collection of the Detroit Public Library in the City of [fols. 1021-1023] Detroit and State of Michigan at 2:30 P. M. of that day, there appeared before me A. L. Sawyer, Special Counsel for the plaintiff, and R. M. Rieser, Special Counsel for defendant in the above entitled action, and by their stipulation and agreement the testimony of Clarence M. Burton was taken by and before me. That said Clarence M. Burton was first duly sworn to tell the truth, the whole truth and nothing but the truth regarding the matters in issue between said parties, and that after being so sworn said Clarence M. Burton upon examination, cross examination and redirect examination, testified as above set forth.

That thereafter the said testimony was read over by said witness and by him subscribed and that the same, as above set forth, is the testimony of said witness so given upon said examination, and is the whole thereof.

I further hereby certify that I have no interest direct or indirect, in the prosecution of this action and I am not related to either of the parties thereto other than as a citizen of the State of Michigan.

Given under my hand and Notarial Seal this 26th day of November, A. D. 1924.

Millicent L. Newland, Notary Public, Wayne Co., Mich. My commission expires April 19, 1927. (Sead Notary Public, Wayne County, Michigan.)

[fol. 1024] DEFENDANT'S EXHIBIT 380

Report upon the Michigan-Wisconsin Boundary, J. B. Davis to Attorney General John E. Bird

1′ 1907-1909

1909

[fol. 1025] Introduction

In the report which follows are gathered the results of the labors of a number of persons, without whose assistance it could not have been prepared. Below are given the names of those whose aid has been of the greatest service.

Mr. Geo. H. Cannon, Washington, Macomb Co., Mich.
Mr. Fred. H. Hadrich, of the Attorney General's Office.
Mr. F. L. D. Goodrich, of the Library of the University.
Mr. Buell, of the War Department, Washington, D. C.
Miss Kathleen F. Lawler, Washington, D. C.
Mr. R. J. Cram, Detroit, Mich.

It is a grateful duty to acknowledge the indispensable assistance so loyally rendered by all of these persons and to commend their earnest and conscientious efforts.

Besides these many others have given of their time, or advice, or have furnished information, or have assisted, in any and every way they could.

The State Land Office, the State Library, and the War Department at Washington, have freely, and generously, responded to every request with especial courtesy and promptness.

The continuous encouragement, advice, suggestion, and inspiration, received from him to whom this report is addressed, have been far from the least of the substantial helps received.

With such counsel, advice, and assistance, if this report fails to be of value it may safely be laid to the writer.

J. B. Davis.

[fol. 1026] Honorable John E. Bird, Attorney General of Michigan.

SIR: Pursuant to an agreement made with you the tenth day of July nineteen hundred and seven, I have made examinations of some parts of that portion of the boundary between Michigan and Wisconsin which extends from the Green Bay of Lake Michigan to Lake Superior; also various publications relating thereto; and have sought information respecting the same from numerous sources.

Following is an outline of the history of this line since 1805, as it appears in the official publications named. For a background of this history one may consult the paper by Professor Claude Sheldon Larzelere, "Boundaries of Michigan," published in 1906 in vol. 30 of Michigan Pioneer and Historical Collections.

1805-1-11, U. S. Statutes at Large, v. 2, p. 309

Michigan Territory Formed

An Act to Divide the Indiana Territory Into Two Separate Governments

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That from and after the thirtieth day of June next, all that part of the Indiana Territory, which lies north of a line drawn east from the southerly bend or extreme of Lake Michigan, until it shall intersect Lake Erie, and east of a line drawn from the said southerly bend through the middle of said lake to its northern extremity, and thence due north to the northern boundary of the United States, shall, for the purpose of temporary government, constitute a separate territory, and be called Michigan.

[fol. 1027] 1812-5-20, U. S. Statutes at Large, vol. 2, p. 741

Ohio-Michigan Boundary

An Act to Authorize the President of the United States to Ascertain and Designate Certain Boundaries

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Surveyor General, under the direction of the President of the United States, be, and he is hereby authorized and required, (as soon as the consent of the Indians can be obtained,) to cause to be surveyed, marked and designated, so much of the western and northern boundaries of the State of Ohio, which have not already been ascertained, as divide said state from the Territories of Indiana and Michigan, agreeable to the boundaries established by the act, entitled, "An Act to enable the people of the eastern division of the territory north-west of the river Ohio to form a constitution and state government, and for the admission of such state into the Union on an equal footing with the original states, and for other purposes," passed April thirtieth, one thousand eight hundred and two; and to cause to be made a plat or plan of so much of the boundary line as runs from the southerly extreme of Lake Michigan to Lake Erie, particularly noting the place where the said line intersects the margin of said lake, and to return the same when made to Congress: Provided that the whole expense of surveying and marking the said boundary lines shall not exceed five dollars for every mile that shall be actually surveyed and marked, which shall be paid out of the moneys appropriated for defraying the expense of surveying the public lands.

[fol. 1028] 1818-4-18, U. S. Statutes at Large, v. 3, p. 431

Adds Territory to Michigan

An Act to enable the people of the Illinois Territory to form a constitution and State government and for the admission of such State into the Union on an equal footing with the original States.

Sec. 7. And be it further enacted, That all that part of the territory of the United States lying north of the State of Indiana, and which is included in the former Indiana Territory, together with that part of Illinois Territory which is situated north of and not included within the boundaries prescribed by this act, to the state thereby authorized to be formed, shall be, and hereby is, attached to, and made a part of the Michigan Territory, from and after the formation of the said state, subject, nevertheless, to be hereafter disposed of by Congress, according to the right reserved in the fifth article of the ordinance aforesaid, and the inhabitants therein shall be entitled to the same privileges and immunities, and subject to the same rules and regulations, in all respects, with the other citizens of the Michigan Territory.

1832-7-14, U. S. Statutes at Large, v. 4, p. 596

Ohio-Michigan Boundary

An Act to Provide for the Taking of Certain Observations Preparatory to the Adjustment of the Northern Boundary Line of the State of Ohio.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That the President of the United States cause to be ascertained, by accurate observation, the latitude and longitude of the southerly extremity of Lake Michigan; and that he cause to be ascertained, by like observation, the point on the Miami of the Lake which is due east thereof, and [fol. 1029] also, the latitude and longitude of the most northerly cape of the Miami bay; also, that he cause to be ascertained, with all practicable accuracy, the latitude and longitude of the most southerly point in the northern boundary line of the United States in Lake Erie; and also, the points at which a direct line drawn from the southerly extreme of Lake Michigan, to the most southerly point in said northern boundary line of the United States, will intersect the Miami river and bay; and also, that he cause to be ascertained by like observation, the point in the Mississippi which is due west from the southerly extreme of Lake Michigan; and that the said observations be made, and the result thereof be returned, to the proper department within the current year.

1834-6-28, U. S. Statutes at Large, v. 4, p. 701

Adds Territory to Michigan

An Act to Attach the Territory of the United States West of the Mississippi River and North of the State of Missouri to the Territory of Michigan.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all that part of the territory of the United States bounded on the east by the Mississippi river, on the south by the state of Missouri, and a line drawn due west from the northwest corner of said state to the Missouri river; on the south and west by the Missouri river and the White Earth river, falling into the same; and on the north, by the northern boundary of the United States, shall be, and hereby is, for the purpose of temporary government, attached to, and made a part of, the territory of Michigan, and the inhabitants therein shall be entitled to the same privileges and immunities, and be subject [fol. 1030] to the same laws, rules and regulations, in all respects, as the other citizens of Michigan Territory.

1835-5-11, Journal of the Proceedings of the Convention to Form a Constitution for the State of Michigan, May 11, 1835

Boundaries Not Described

This volume does not contain the report of the Committee on Boundaries, and the only discussion is on the southern boundary. The Michigan-Wisconsin boundary appears as a line drawn north from the upper extremity of Lake Michigan, according to the Act of Congress of 1805 organizing the Territory of Michigan. The first constitution of the State does not describe the boundaries.

1836-4-20, U. S. Statutes at Large, v. 5, p. 10, 11 and 15

Menominee-Montreal Boundary

An Act Establishing the Territorial Government of Wisconsin

Sec. 1. Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that from and after the third day of July next, the country included within the following boundaries shall constitute a separate territory, for the purposes of temporary government, by the name of Wisconsin; that is to say: Bounded on the east, by a line drawn from the northeast corner of the State of Illinois, through the middle of Lake Michigan, to a point in the middle of said Lake, and opposite the main channel of Green Bay, and through said channel and Green Bay to the mouth of the Menominee river; thence through the middle of the main channel of said river, to that head of said river

nearest to the Lake of the Desert; thence in a direct line, to the middle of said lake, thence through the middle of the main channel of the Montreal river, to its mouth; thence with a direct line across Lake Superior, to where the territorial line of the United States last [fol. 1031] touches said Lake north-west; thence on the north, with the said territorial line, to the White-Earth river; on the west, by a line from the said boundary line following down the middle of the main channel of White-Earth river, to the Missouri river, and down the middle of the main channel of the Missouri river to a point due west from the north-west corner of the State of Missouri; and on the south, from said point, due east to the north-west corner of the State of Missouri; and thence with the boundaries of the States of Missouri and Illinois, as already fixed by acts of Congress. And after the said third day of July next, all power and authority of the government of Michigan in and over the territory hereby constituted, shall cease:—Provided, That nothing in this act contained shall be construed to inhibit the Government of the United States from dividing the Territory hereby established into one or more other Territories, in such manner, and at such times, as Congress shall, in its discretion, deem convenient and proper, or from attaching any portion of said Territory to any other State or Territory of the United States.

This appears to be the first official mention of the boundary by way of the Menominee and Montreal rivers.

Laws of Michigan Extended Over Wisconsin

Sec. 12. And be it further enacted, That the inhabitants of said Territory shall be entitled to, and enjoy, all and singular the rights, privileges and advantages, granted and secured to the people of the territory of the United States north-west of the river Ohio, by the articles of the compact contained in the ordinance for the government of the said territory, passed on the thirteenth day of July, [fol. 1032] one thousand seven hundred and eighty seven; and shall be subject to all the conditions and restrictions and prohibitions in said articles of compact imposed upon the people of the said Territory. The said inhabitants shall also be entitled to all the rights, privileges and immunities, heretofore granted and secured to the Territory of Michigan, and to its inhabitants, and the existing laws of the Territory of Michigan shall be extended over said Territory, so far as the same shall not be incompatible with the provisions of this act, subject, nevertheless, to be altered, modified, or repealed, by the Governor and Legislative Assembly of the said Territory of Wisconsin, and further, the laws of the United States are hereby extended over, and shall be enforced in, said Territory, so far as the same, or any provision thereof, may be applicable.

1836-6-15 and 1836-6-23, U. S. Statutes at Large, v. 5, p. 49

Enabling Act for Michigan

"An Act to establish the northern boundary line of the State of Ohio and to provide for the admission of the State of Michigan into the Union upon the condition therein expressed.

Boundaries of Michigan

Sec. 2. And be it further enacted, * * * Provided always, and this admission is upon the express condition, that the said State shall consist of and have jurisdiction over all the territory included within the following boundaries, and over none other, to wit: * * * Thence, in a direct line through Lake Superior, to the mouth of the Montreal river; thence through the middle of the main channel of the said river Montreal, to the middle of the Lake of the Desert; thence, in a direct line to the nearest head water of the Menominee river; thence, through the middle of that fork of the said river first [fol. 1033] touched by the said line, to the main channel of the said Menominee river; thence, down the center of the main channel of the same, to the center of the most usual ship channel of the Green Bay of Lake Michigan; * * *"

Assent of Michigan Required

Sec. 3. And be it further enacted, That, as a compliance with the fundamental condition of admission contained in the last preceding section of this act, the boundaries of the said State of Michigan, as in that section described, declared and established, shall receive the assent of a convention of delegates elected by the people of the said State, for the sole purpose of giving the assent herein required; * * *."

Description reversed, proceeding up the Montreal river and down the Menominee river instead of in the opposite direction as in the previous act.

1836-12-15, Compiled Laws of Michigan, 1897, v. 1, p. 67, 68

Assent of Michigan to U. S. Statute of 1836-6-15

Assent of the State of Michigan to the Act of Congress of June fifteenth, eighteen hundred and thirty-six, given in Convention at Ann Arbor on the fifteen day of December, eighteen hundred and thirty-six.

Whereas, By and Act of Congress of June the fifteenth, one thousand eight hundred and thirty-six, the Constitution and State Government which the people of Michigan have formed for themselves is accepted, ratified and confirmed: and whereas, the admission of the State of Michigan into the Union, as one of the United

States, is provided by the said act to be upon the express condition, "That the said state shall consist of and have jurisdiction over all the territory included within the following boundaries, and over none other, to wit: Beginning at the point where the de-
[fol. 1034] scribed northern boundary of the State of Ohio intersects the eastern boundary of the State of Indiana, and running thence with the said boundary line of Ohio, as described in the first section of the said act, until it intersects the boundary line between the United States and Canada, in Lake Erie; thence with the said boundary line between the United States and Canada through the Detroit river, Lake Huron and Lake Superior, to a point where the said line last touches Lake Superior; thence in a direct line through Lake Superior to the mouth of the Montreal river, thence through the middle of the main channel of said Montreal river, to the middle of the Lake of the Desert; thence in a direct line to the nearest head water of the Menominee river; thence through the middle of that fork of the said river first touched by the said line, to the main channel of the said Menominee river; thence down the center of the main channel of the same to the center of the most usual ship channel of the Green Bay of Lake Michigan; thence through the center of the most usual ship channel of the said bay, to the middle of Lake Michigan; thence through the middle of Lake Michigan to the northern boundary of the State of Indiana, as that line was established by the act of Congress of the nineteenth of April, one thousand eight hundred and sixteen, thence due east with the north boundary line of the said State of Indiana to the north-east corner thereof, and thence south with the east boundary line of Indiana to the place of beginning." And whereas; as a compliance with the condition of admission prescribed in the said act, it is provided and required in the said act that the above prescribed boundaries of the State of Michigan shall receive the assent of a convention of delegates, elected by the people of the said state for the sole purpose of giving such assent: and whereas, no au-
[fol. 1035] thority is designated in said act of Congress, by which said convention of delegates shall be called or convened, but in the third section of said act the right of the people of Michigan to elect said delegates without any previous action of their constituted authorties is clearly recognized and manifest: and whereas this convention originated with, and speaks the voice of a great majority of the people of Michigan: and whereas, it is provided and enacted in the said act, that as soon as the assent therein required shall be given, the President of the United States shall announce the same by proclamation; and thereupon and without any further proceedings on the part of Congress, the admission of said state into the Union as one of the United States of America, on an equal footing with the original states in all respects whatever, shall be considered as complete.

Now, although this convention are of opinion that the Congress of the United States had no constitutional right to require the assent aforesaid as a condition preliminary to the admission of the said State into the Union, never the less, as the Congress have re-

quired such assent to the said condition, and as the interest and prosperity of the state will be greatly advanced by an immediate admission into the Union as one of its sovereignties, and the people of the said state are solicitous to give to her sister states and to the world unequivocal proof of her desire to promote the tranquillity and harmony of the confederacy, and to perpetuate the unity, liberty and prosperity of the country, Therefore, Be it resolved by the People of Michigan in Convention assembled, That the assent required in the foregoing act of the Congress of the United States is hereby given.

[fol. 1036] This done in convention at Ann Arbor, this fifteenth day of December, in the year of our Lord one thousand eight hundred and thirty-six, and of the Independence of the United States of America the sixty-first.

1837-1-26, U. S. Statutes at Large, v. 5, p. 144

Admission of Michigan

An Act to Admit the State of Michigan Into the Union Upon an Equal Footing with the Original States

Whereas, in pursuance of the act of Congress of June the fifteenth, eighteen hundred and thirty-six, entitled "An Act to establish the northern boundary of the State of Ohio, and to provide for the admission of the State of Michigan into the Union upon the conditions therein expressed," a convention of delegates, elected by the people of the said State of Michigan, for the sole purpose of giving their assent to the boundaries of the said State of Michigan as described, declared and established, in and by the said act, did, on the fifteenth of December, eighteen hundred and thirty-six, assent to the provisions of said act, therefore:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the State of Michigan shall be one, and is hereby declared to be one, of the United States of America, and admitted into the Union on an equal footing with the original states, in all respects whatever.

1838-6-12, U. S. Statutes at Large, v. 5, p. 235

Ter. of Iowa Set Off from Wis. Ter.

An Act to Divide the Territory of Wisconsin and to Establish the Territorial Government of Iowa

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That from and after the third day of July next, all that part of the present Terri- [fol. 1037] tory of Wisconsin which lies west of the Mississippi river, and west of a line drawn due north from the head waters or sources of the Mississippi to the territorial line, shall, for the pur-

poses of temporary government, be and constitute a separate Territorial Government by the name of Iowa; and that from and after the said third day of July next, the present Territorial Government of Wisconsin shall extend only to that part of the present Territory of Wisconsin which lies east of the Mississippi river. And after the said third day of July next, all power and authority of the Government of Wisconsin in and over the territory hereby constituted shall cease: Provided, (concerning Indian rights). Provided, that nothing in this act contained shall be construed to inhibit the Government of the United States from dividing the Territory hereby established into one or more other Territories in such manner and at such times as Congress shall, in its discretion, deem convenient and proper, or from attaching any portion of said Territory to any other State or Territory of the United States.

1838-6-12, U. S. Statutes at Large, v. 5, p. 244

Mich.-Wis. Boundary Survey Authorized

An Act to Ascertain and Designate the Boundary Line Between the State of Michigan and the Territory of Wisconsin

Be it enacted, * * * That the Surveyor General of the Ohio, Indiana, Michigan and Wisconsin land districts, under the direction of the President of the United States, be and he is hereby, authorized and required to cause to be surveyed, marked and designated, the boundary line between the State of Michigan and the Territory of Wisconsin, agreeably to the boundary as established by the Act entitled "An Act to establish the northern boundary line of the State [fol. 1038] of Ohio, and to provide for the admission of the State of Michigan into the Union, upon the conditions therein expressed," approved June fifteenth, eighteen hundred and thirty-six; and to cause to be made a plat or plan of the boundary between the said State of Michigan and the said Territory of Wisconsin, and return the same to Congress, at its next annual session, and that the sum of three thousand dollars be, and the same is hereby appropriated to carry into effect this act: Provided, That the whole expense of surveying, marking and designating the said boundary line shall not exceed that sum.

1840-7-20, U. S. Statutes at Large, v. 5, p. 407

Survey of Mich.-Wis. Boundary

An Act Making Appropriation for the Support of the Army for the Year One Thousand Eight Hundred and Forty

Sec. 2. And be it further enacted, that the sum of $3,000 appropriated by Act of Congress of the twelfth of June, one thousand eight hundred and thirty-eight, to ascertain and designate the boundary line between the State of Michigan, and the Territory of Wis-

consin, be, and the same is hereby, reappropriated to be spent under the direction of the Secretary of War, for the accomplishment of the same object.

[fol. 1039] 1840-7-30

Letter of Instructions from Col. J. J. Abert, Chief Topographical Engineer, to Capt. T. J. Cram

Bureau of Topl. Engrs.
Washington, July 30th, 1840.

Capt. Th. J. Cram, C. T. E., Chicago.

SIR: You will repair to Green Bay for the purpose of making the necessary arrangements, and from thence to the head of the Menominee, at which point the survey now assigned to you will commence. You will take with you such of the subalterns of your present command as can be spared from their other duties. The object of the survey will be found explained in the inclosed memorandum.

A requisition for $3,000.00 is this day made in your favor, it being the whole amount appropriated for the duty now assigned to you.

Respectfully, (Signed) J. J. Abert, Cl. T. E.

Capt. Cram's Instructions

Memorandum

The survey now committed to you is that of the boundary between the State of Michigan and the Territory of Wisconsin. The entire amount appropriated for the survey is $3,000, but it is doubted if this will be sufficient for the duty. Under which view of the case, your attention will be directed, in the first instance to those parts of the boundary destitute of a distinct physical character not easily mistaken.

The boundary is described as follows, that is, those parts of it necessary to be referred to in these instructs, "to the mouth of Montreal river (of Lake Superior) thence through the middle of the channel [fol. 1040] of the said river, Montreal to the middle of the Lake of the Desert, thence in a direct line to the nearest head of the Menominee; thence through the middle of that fork of said river first touched by the said line, down the center of the main channel of the same, to the center of the most usual ship channel of the Green Bay of Lake Michigan; thence through the center of the most usual ship channel of Green Bay to the middle of Lake Michigan; thence, etc.

The middle of rivers is not an unusual boundary between states, it is however always an imaginary one, as it cannot be distinctly marked out. The boundary of a river is a distinct physical boundary, not to be mistaken where the river is known. Altho', therefore, rivers which form boundaries may be erroneously traced upon maps, they are easy to be found in nature, and their erroneous posi-

tions upon maps cannot lead to any error or mistakes of jurisdiction in the adjoining authorities. There is no necessity, therefore, for surveying these, unless to have a correct delineation of the boundary. A desirable object without doubt, but yet not being absolutely necessary, it may be delayed without injurious consequences, and with great propriety when it is doubted if the amount appropriated will make the whole survey.

The usual ship channel of Green Bay, is presumed to mean the best, as such would be the one generally resorted to. The expression, however, clearly implies the existence of more than one channel, and the necessity, in consequence, of surveying the whole of Green Bay, in order to determine which of its ship channels is the best.

The line from the head of Montreal river to the head of the Menominee, must also, of necessity, be surveyed, as it is an unde- [fol. 1041] termined line, without distinct physical characteristic. This line, it is said, must pass through Desert lake. Recent information induces the belief that there are several lakes, between the headwaters of these two rivers, called: lakes of the Desert. They are so delineated and named on some maps of that locality which I have examined. The survey will, however, give correct information on this subject.

From the foregoing remarks you will perceive, that the necessities of the case will require immediate surveys only of Green Bay, and of the country between the headwaters of the Montreal and the Menominee through which the line is to be traced. And from the short reference which has been made to these two localities of the boundary, you will also perceive that the necessity for the most immediate or first survey, applies itself to the line between the headwaters of the two rivers named. You will, therefore, in the first instance, apply your whole attention and your whole force to this part of the line which you will complete, if possible, during the present season.

(Signed) J. J. Abert Cl. T. E.

1840-11-12, U. S. Senate Documents, 26th Congress, 2nd Session, v. 1, No. 1

Report of the Chief Topographical Engineer

2. The survey of the boundary between Michigan and Wisconsin. As soon as arrangements could be made, a detachment of the corps was placed on this duty. No information has yet been received of its progress; nor is it anticipated that the duty will be completed this season, or that the amount appropriated will be adequate to its completion.

[fol. 1042] The party could not be organized til- after the adjournment of Congress, as we were obliged to await its directions in the case; which, as the session extended to a late period, did not admit of the duty being commenced until the greater part of the most favorable season for such operations in that climate had already passed by.

1841-1-12, Michigan Senate Journal

Gov. Woodbridge's Message to Michigan Legislature

The President announced the following special message from the executive:

To the Senate and House of Representatives:

GENTLEMEN: Since the month of August last, I have been aware that serious difficulties might be apprehended in the location of the boundary line between this State and the Territory of Wisconsin. A strict adherence to the terms in which that boundary is sought to be defined by the Act of Congress entitled "An Act to establish the northern boundary line of the State of Ohio, and to provide for the admission of the State of Michigan into the Union, upon the conditions therein expressed," would seem, by information more recently communicated to me by the State Geologist, to be absolutely impracticable.

It is not wise that a topic like this, should be left to disturb the future harmonies of society, and embarrass the operations of the State. It is better, that whatever difficulties exist, should be met at once; before they become aggravated by time, and before the growth of individual and local interests shall have added bitterness to the points of doubt or difference.

A critical examination of the topography of the country through which the line must pass, appears to render a strict and literal con- [fol. 1043] formity with the directions contained in the Act of Congress, impossible; but the general intent of the act, it is presumed, can be attained without much difficulty, if early and appropriate measures be taken. In order that the nature of the difficulties I allude to, may be more fully before you, and the more readily seen, I respectfully present to you the last communication I have received on the subject, from the State Geologist; (for whose vigilance in detecting them at so early a period, I feel much indebted,) and have also requested him to cause to be prepared, by the state topographer, for your use, a diagram, or general sketch, of the country through which the line must pass; and which, though in some respects conjectural, will nevertheless present with sufficient certainty, the disagreements that exist between the description contained in the act of Congress, and the actual geography of those regions.

It is not competent for Congress, I apprehend, to vary the proposed line, in any respect, without the assent of this state; and so far as the matter of boundary may be considered as established by our fundamental law, it may be very doubtful whether the legislature of this state may of its own authority, assent to any essential alteration in it, unless by such process as is provided for effecting any other alteration in our constitution. But so far as ambiguity exists in the act of Congress, it will be deemed subject to the same general rules, by which effect may be given, by construction, to the general and leading intent of the parties to it. I deem the object of sufficient importance to make the attempt, at least, and at the earliest practicable

period. I, therefore, respectfully recommend, that by memorial, joint resolution, or otherwise, you urge this matter upon the con-[fol. 1044] sideration of Congress, and request that body to cause the line in question to be surveyed, and that simultaneously with the survey, a commissioner be appointed by the general government to attend, conjointly with a commissioner to be appointed by this state, and who, by their concurrent action, so establish the boundary in question, if practicable, as shall be in conformity with the manifest general intent of the act of Congress; and unless you should be of opinion that a distinct appointment of a commissioner, should be made, on the part of the state, I respectfully submit to you the expediency of making it by law, the duty of the State Geologist, to attend to the matter, in behalf of this state, in the event that the general government should conform to your request.

Deeming it important that this matter should be presented for the consideration of Congress at as early a day as practicable, during this, its short session, I have not taken time to copy this communication, nor the documents which accompany it; and respectfully solicit that they may be considered as addressed to, and for the use of both houses.

William Woodbridge.

Executive Office, January 12, 1841.

Mr. Witherell moved to refer the message and accompanying documents, to the Committee of State Affairs; which was agreed to.

The Committee on State Affairs subsequently reported a resolution which was adopted and sent to Congress. See U. S. Senate Documents: 26th Congress, 2nd Session, v. 4, no. 186.

[fol. 1045]1841-2-3, U. S. Senate Documents, v. 4, No. 151

Report on the Survey of the Boundary Between the State of Michigan and the Territory of Wisconsin

Capt. Cram's First Report

Description of the Boundary

"* * * to the mouth of the Montreal River (of Lake Superior); thence through the middle of the channel of the said river Montreal to the middle of the Lake of the Desert; thence in a direct line to the nearest head of the Menominee River; thence through the middle of the fork of said River just touched by the said line down the center of the main channel of the same to the center of the most usual ship channel of the Green Bay of Lake Michigan; thence through the center of the most usual ship channel of Green Bay to the middle of Lake Michigan; thence etc." * * *

Such is the language of the description contained in the letter of instructions date- 30th July, 1840, from the Topographical Bureau

and which is presumed to have been quoted from the act of Congress concerning this boundary.

In the same letter of instructions explicit directions were communicated with reference to the place of commencing the survey. In obedience to those directions the survey was commenced on that part of the boundary which may be called imaginary or that which is not characterized or marked by natural or physical features, viz.: the portion between the head waters of the Montreal and of the Menominee Rivers.

On a careful reading of the foregoing description of the boundary it will be inferred:

1st. That 'Lake of the Desert' was supposed in the Act of Congress to be a head water of, and to discharge itself into Montrea River—[fol. 1046] for, the words in the description are—"thence through the middle of the channel of said river Montreal to the middle of the 'Lake of the Desert.'"

2nd. That somewhere between Lake Superior and Green Bay, there was a known lake bearing the name 'Lake of the Desert'—for the language describing the boundary specifies that the "Middle of the Lake of the Desert" shall be a point in the boundary.

3rd. That of all the head waters discharging themselves into the Menominee River, one would be found nearer the said Lake of the Desert than any other, for, the description says—"thence in a direct line to the nearest head of the Menominee River."

4th. That the nearest head of the Menominee to the said Lake would be found to be a branch of the Menominee and not a lake—for, the description reads—"thence through the middle of the fork (branch) of the said river just touched by the said line down the center of the main channel of the same etc."

The four suppositions here enumerated were doubtless made by the Committee of Congress who drafted the description of the boundary, and predicated on information derived from a map similar to one entitled "Map of the entire Territories of Wisconsin and Iowa, published by order of the Legislative Assembly of Wisconsin by L. Indson" and which was supposted to present a more accurate delineation of the waters between Lake Superior and Green Bay than any other map extant.

An exact copy of as much of said map as is necessary for illustration is attached to this report and marked No. 1.

[fol. 1047] Upon the map it will be perceived, that the boundary between Michigan and Wisconsin is laid down as following a direction from Lake Superior nearly south-east to Green Bay; and that the courses of the Montreal and Menominee Rivers taken together, constitute a general route in the same direction; and that Lac Vieux Desert ("Lake of the Desert") is not only represented on this map as being the head of the Montreal, but is likewise represented as the head of the Menominee.

Now, although the map from which No. 1 has been copied bears

the high sanction of a Legislative Assembly, it is proven by the survey that the portion of this map upon which the boundary is laid down is exceedingly erroneous: and therefore if it be true that this map or one similar to it was taken as a guide in drafting the description of the boundary, it is not surprising that the said description so far as it relates to the head waters of the Montreal and Menominee, is so worded that the conditions of the Act defining the boundary cannot be complied with to the full extent of all the requirements contained in said act.

The survey was prosecuted as far as the inclemency and rigor of the advanced stage of the season would permit; but if there had been ever so much time left and ever so genial a temperature for field operations, the survey could not have been carried any farther, on account of having reached a point beyond which the description of the boundary ceases to be in accordance with the physical character of the country.

It was ascertained that Lac Vieux Desert or 'Lake of the Desert' has no connection whatever with the Montreal River; and that the nearest distance between said Lake and this river is such, that an [fol. 1048] Indian requires eight days without a pack to pass from one to another: And it is also believed with much confidence, that the Montreal River does not head in a lake but takes its rise in an extensive swamp. Neither is Lac Vieux Desert or 'Lake of the Desert' at all connected with the Menominee River, but this lake was found—contrary to the opinions of all except the Indians—to be the principal head of the Wisconsin River.

The Montreal River was found to have a course different from what was supposed; so have the courses of the Menominee and of its principal branches been equally mistaken and misrepresented.

Map No. 2 which is attached to this report exhibits a more faithful delineation of the country between Lake Superior and Green Bay along the route of the boundary than any other map, for it has been made up from actual reconnaissances, explorations and minute surveys of the route which it represents. Still this map should only be regarded as an approximation to the truth. That part of it however which represents the district between Lac Brule and Lac Vieux Desert and which it was necessary to survey, is accurate—being made from Minute surveys. The same degree of accuracy is to be attributed to the portion between the mouth of the Menominee and the White Rapids, and to that portion immediately north of Green Bay itself; the other parts of the maps are made from reconnaissances and explorations of the ground and from Indians whose representations are entitled to confidence.

And here it may be well to remark for the benefit of those who may hereafter be sent upon a similar duty in this wild region, that information derived from French Voyageurs or more properly French Fur Packers who traverse the country to collect furs for [fol. 1049] traders, cannot be relied on, with so much confidence as that which may be elicited from the Indians. The chief aim of the voyageur, while collecting his pack of furs, is to pass from one

point to another in the least possible time—so intent is he upon accomplishing this, that he performs his trips with no more observation upon surrounding nature than is evinced by a stage horse in passing from one relay to another. Not so, however, with the native born Indian hunter. He knows every stream, swamp, lake, hill or dale that comes within the circuit of his beat with a surprising minuteness, and there are those among the band who will impart information to one who will take the trouble and proper course to win their confidence. Much valuable information pertaining to the route of the boundary was obtained from the Indians.

I am under obligation to Ramsay Crooks, Esqr., President of the American Fur Company for information derived from him, as well as from a sketch of a small portion of the country with which he favored me in the fall of 1839.—The information obtained from this gentleman has been of service and is embodied (with slight corrections consequent upon a personal examination of the ground) in Map No. 2.

Map No. 3 which is affixed to this report represents on a larger scale that portion of the country which was minutely surveyed between Lac Brule and Lac Vieux Desert. It also represents a part of Brule River—that fork or head or branch of the Menominee which is found to be situated nearest the lake called in the Act of Congress 'Lake of the Desert'—which however is more generally known by the name Lac Vieux Desert. From this map it will be seen that the portion of the Act of Congress or the description of the boundary which reads—"middle of the Lake of the Desert; thence in a direct line to the nearest head of the Menominee River" [fol. 1050] can now be complied with, and the 'direct line' run on the ground or laid down on the map, provided the starting point—"the middle of the Lake of the Desert" shall be first fixed. But it may be asked what is "The middle of the Lake of the Desert"? From the contour of this lake which is exhibited on Map No. 3 it will at once be perceived, that the term 'middle' as applied to it is very indefinite; and that it would require much labor to determine its middle and to establish a monument so as to mark a corner or a point in the boundary. The labor of course would not be objected to, but if required to be performed, means adequate to the end should be provided.

Again, from the course which the Montreal River is now found to have, and from the fact that the Lake of the Desert has no connection whatever with this river, it will also be perceived that it would be impossible to run a line according to the meaning of the words in the description of the boundary—"thence through the middle of the channel of the said river Montreal to the middle of the Lake of the Desert." It is true that the channel of the river might be followed to its very head, and from this head a line could be run over the ground to the middle of the Lake of the Desert. But it is not presumable that such a random line was ever intended by Congress to constitute any portion of the boundary in question. It undoubtedly supposed, that Lake of the Desert was the head of the

Montreal, and that a natural boundary would be found to be provided all the way from the mouth of the Montreal to the middle of said lake; and that it would be necessary to mark out a line from the middle of this lake to the nearest head water of the Menominee River. From this interpretation it will be evident that the instruc- [fol. 1051] tions from the Bureau of Topographical Engineers have been fully complied with, and that the survey of the boundary has been prosecuted as far as was practicable under those instructions for this season, notwithstanding the difficulties which were encountered.

From the foregoing discussion of the route, it will now appear, that it would be exceedingly difficult—yea utterly impossible to run the boundary line in complete accordance with the present reading of the description in the Act of Congress—particularly on the part of the ground between the Montreal River and the head of the Memominee (the Brule River) which comes nearest to "Lake of the Desert". And from all the circumstances of the case, it is evident that another action of Congress will be required in relation to this boundary—to the end of defining it in such a manner that it can be established either upon the Ground or laid down on a map with that degree of definiteness which should always characterize a boundary line between two states.

Here the subject might be dropped by me—but as the survey has developed information which may be of use in the event of any future legislation, it is deemed proper, and in any event I trust it will not be regarded as officious in me, to present the following suggestions as a part of the report.

There is no doubt of Lac Vieux Desert (as written on the map and generally so called) being the identical lake with that which seems to have been intended in the description of the boundary and therein called 'Lake of the Desert', and whose middle is made one point of the boundary.

The three islands of this lake have, from their relative positions, been named—South Island, Middle Island, and North Island.

[fol. 1052] Lac Vieux Desert now being known might be brought into the boundary, by specifying some point within the periphery of the lake for one physical point of the boundary. All indefiniteness, much labor and expense would be avoided by simply saying in the law, that the highest point of ground (whether of earth or rock) upon Middle Island, shall be the point instead of saying 'middle' of the lake.

The present description of the boundary makes the 'middle' of the channel of the Montreal River a part of the boundary. The term "Middle of the channel" is indefinite—because Islands may occur, which would of course cause more than one channel. By specifying which channel in such cases shall be followed by the boundary line, another ambiguity would be avoided. It is also evident, that it should be specified how far up the Montreal the boundary shall extend before leaving for Lac Vieux Desert. For example,—the law might specify that the boundary in ascending shall follow the extreme right hand channel from the mouth of the river up to where

it shall be found to be intersected by a straight line drawn from the highest point of Middle Island to some specified point of Montreal River. Such a description would be divested of vagueness and would allow of this portion of the boundary being established at comparatively less cost.

As the shortest line from said point on Middle Island to the nearest water flowing into the Menominee would probably terminate in a swamp (see Map No. 3) it would be well to say that this part of the boundary shall be a direct line from the highest point of Middle Island to the middle of the channel of the outlet of Lac Brule; thence through the middle of Brule River etc.

[fol. 1053] The "center" of the main channel of the Menominee River is made a part of the boundary. The River contains numerous islands, and consequently more than one channel, where these islands occur. It will be impossible in many of these cases to know which is the "main channel" without minute surveys. In many cases it was tried and found impossible to decide by a simple inspection or reconnaissance which was the "main channel". It should also be remarked here that the term "main channel" applied to the multiplicity of channels of the Menominee, would be somewhat ambiguous in any event—for, it may be asked—Is the main channel the widest channel of the river? Or is it the deepest? If it is the widest or deepest now, will it be the widest or deepest hereafter? Or shall the main channel be that through which the greater quantity of water shall be found to pass at the time of the survey? And if it should occur that two channels at the same island pass equal quantities of water—which would then be regarded as the boundary? These questions are sufficient to show the indefiniteness of the term "Main Channel"—There are also a few islands in the Brule River to which similar questions might apply in reference to the term "Main Channel."

To avoid all ambiquity in reference to these channels, it might be specified in the act defining the boundary, that in ascending the stream, the boundary shall follow the extreme left hand channel of the Brule and the extreme right hand channel of the Menominee down to a well known point of the river—say Pe-me-ne Falls; and thence to follow the extreme left hand channel of the remainder of the Menominee to its mouth. Such a division would leave most of the islands in Michigan and the remainder in Wisconsin, and would [fol. 1054] avoid much expense in minute surveys to ascertain the "main channel" and would leave no indefiniteness upon this part of the boundary. The free use of either channel for the purposes of nevigation would, from an established principle of law be open at all times to the citizens of either state, and the islands would be nearly distributed in equal proportions between the two states.

After descending the channel of the Menominee "to the center of the most usual ship channel of the Green Bay of Lake Michigan" the boundary is made to run "thence through the center of the most usual ship channel of Green Bay to the middle of Lake Michigan."

From Map No. 4 which accompanies this report it may be inferred that the islands which are in the eastern part of Green Bay would cause several ship channels. It is a well known fact to all who have any personal knowledge of the navigation of this Bay that there are at least two ship channels which are in use by all classes and kinds of crafts that navigate the great lakes. It would be next to an impossibility to collect the testimony that would be necessary to decide the question—Which of these is the "Most usual ship channel of Green Bay"? And it is not easy to conceive any other mode (than by testimony) by which the "Most usual ship channel" could be ascertained. But suppose this method of collecting testimony practicable, it might occur that all the evidence that could be obtained on the subject would prove that one of these channels is just as much in use as the other; in which case it would only be shown that there is no such thing as the "most usual ship channel" in this part of the Bay.

Although the term "Most usual ship channel" is used in the description of the boundary—still, it is rather to be presumed that this [fol. 1055] term was intended to imply in the Act of Congress the best ship channel of all that may be found in that portion of Green Bay that is referred to. An equitable construction of the law would convey this idea; for it is not to be presumed that, of two states bordering upon navigable ship channels, either state could or would in equity claim to appropriate the best of these channels exclusively to herself.

If the interpretation of the term "Most usual ship channel" implying the best ship channel be correct, it will be necessary to make a complete hydrographic survey of all the channels that exist in that portion of Green Bay east of the mouth of the Menominee River, in order to discover the best ship channels (if there be such) among all the ship channels now in use in that part of the Bay.

After this survey shall have been made, the particular channel along which the boundary shall run, may be declared.

It is important to the interests of Michigan and Wisconsin, that this part of the boundary be immediately ascertained, on account of the question of jurisdiction over the islands in the eastern part of the Bay.

With the modifications now respectfully suggested, the description of the boundary would be to the following effect, to wit:

"to the mouth of the Montreal River (of Lake Superior; thence (in ascending) through the center of the extreme right hand channel that the said Montreal River may be found to have as far up the same as where the said channel shall be found to be intersected by a direct line drawn from the highest point of ground on Middle Island of Lac Vieux Desert north* degrees west thence (from the [fol. 1056] said intersection) along the just described direct line to the said point of Middle Island; thence (from the said point of Middle Island) in a direct line to the center of the channel of the

*NOTE.—The number of degrees left to be fixed by proper authority.

outlet of Lac Brule; thence following the center of the extreme left hand channel of Brule River (Wesacota Sepe) down to the middle of the channel of the Menominee River; thence following the center of the extreme right hand channel of the Menominee River down the same to the head of Pe-me-ne Falls; thence following the center of the extreme left hand channel of the Menominee River down to the center of the best ship channel of the Green Bay of Lake Michigan; thence following the center of the best ship channel of Green Bay to the middle of Lake Michigan."

Such a description as this, if authorized by Congress would allow of the boundary being established without any material difficulties; and it would cause no material departure from what is conceived to have been the intention of the law as it is now worded. The proposed description would moreover leave the State of Michigan and the Territory of Wiskonsin with nearly the same relative quantities of territory as they would have respectively possessed, had the Montreal, and the Menominee, and Lac Vieus Desert been found situated as was supposed in framing the present law of the boundary. Besides the field operations which will be necessary to establish the boundary, would be attended with much less expense, on account of having to make no minute surveys of the islands and consequent [fol. 1057] channels in the Montreal, Brule and Menominee rivers.

Owing however to the absence of all facilities in a wilderness—like that of the route of this boundary—the cost of the necessary operations for establishing the boundary between the mouth of the Montreal and Lac Vieux Desert, thence to the outlet of Lac Brule will not be less then $10,000. And the cost of the survey of the eastern part of Green Bay to discover the best ship channel will be not less than $3,000. These sums being exclusive of what has already been appropriated.

I have the honor to be, Sir, very respectfully, your most obt. sevt.,
Th. Jefferson Cram, Capt. T. E.

December 1840.

To I. I. Abert, Colonel T. E., Washington.

1841-2-15, U. S. Senate Documents, 26th Congress, 2nd Session, v. 4, No. 186

Resolutions of the General Assembly of Michigan in Relation to the Boundary Line Between That State and the Territory of Wiskonsin.

A Joint Resolution in Relation to the Boundary Line Between This State and the Territory of Wiskonsin

Whereas a critical examination of the topography of the country through which the boundary line between this State and the Territory of Wiskonsin must pass, appears to render a strict [fol. 1058] and literal conformity with the directions contained in the Act of Congress establishing the same impossible: And whereas

the general intent of said act, it is presumed, can be attained without much difficulty, if said line be immediately marked and described: Therefore

Be it resolved by the Senate and House of Representatives of the State of Michigan, that the Congress of the United States be, and they are hereby, earnestly solicited to cause the line in question in question to be surveyed and marked; and that, simultaneously with the survey, a commissioner be appointed by the General Government to attend, conjointly with a commissioner to be appointed by this State, and who, by their concurrent action, (shall) so establish the boundary in question, if practicable, as shall be in conformity with the manifest general intent of the act of Congress.

Be it further resolved, That the delegation of this State in Congress be, and they are hereby, requested to use their efforts to procure the passage, in Congress of some appropriate act or joint resolution to effect this object.

Signed by the Speaker of the House of Representatives and President of the Senate and Governor Woodbridge.

A joint resolution authorizing the Governor to appoint a commissioner to act in concert with such commissioner as may be appointed by the Federal Government for the purpose of surveying and marking the boundary line between this State and the Territory of Wiskonsin.

Resolved by the Senate and House of Representatives of the State of Michigan. That the Governor be, and he is hereby authorized to appoint the State Geologist, or some other fit and proper person, as commissioner to survey and mark the boundary line between this [fol. 1059] State and the Territory of Wiskonsin, to act in concert with such other commissioner or commissioners as may be first appointed for that purpose by authority of the Government of the United States.

Signed same as foregoing resolution.

Here is expressed the purpose to fix this boundary in conformity with the manifest general intent of the act of Congress.

1841-3-3, U. S. Statutes at Large, v. 5, p. 435

Survey of Mich.-Wis. Boundary

An Act Making Appropriations for the Support of the Army for the Year One Thousand Eight Hundred and Forty-one

Sec. 3. And be it further enacted, That for the purpose of designating and marking the boundary line between the State of Michigan and the Territory of Wisconsin, agreeably to the true intent and meaning of the second section of the act entitled "An Act to establish the northern boundary of the State of Ohio, and to provide for

the admission of the State of Michigan into the Union, upon the conditions therein expressed," there be, and is hereby appropriated, the sum of six thousand dollars, to be expended under the direction of the Secretary of War, in the survey and examination of the country situated between the mouths of the Menominee and Montreal rivers, who is hereby directed to cause to be made a plat or plan of such survey and examination, which shall be returned to Congress with all convenient despatch.

[fol. 1060] 1841-3-31, Letter of Instructions from Col. J. J. Abert, Chief Topographical Engineers, to Capt. T. J. Cram

Bureau of Topographical Engineers

Washington, March 31st, 1841.

Capt. T. J. Cram, Corps T. Engrs., Sullivan Co., N. H., 418.

SIR: Six thousand dollars has been appropriated for the further prosecution of the survey in reference to the boundary between the State of Michigan and the Territory of Wisconsin. You will make your arrangements for this duty.

Your operations should have in view a correct delineation of the country between the headwaters of the Menominee and the Montreal rivers; so that all the matter requisite to determine a boundary between these two points can be laid before Congress. A correct survey of these two rivers should be made, which will probably be the extent of your operations for the present season.

Your views in reference to instruments, assistants and means should be submitted to the Bureau as soon as practicable. Please also keep me duly apprized of your address.

Respectfully, &c., J. J. Abert, Col. C. Top. Engrs.

[fol. 1061] 1841-11-15, U. S. Senate Documents, 27th Congress, 2nd Ses., v. 1, No. 1

Report of the Chief of the Bureau of Topographical Engineers

6. Survey of the boundary between the State of Michigan and the Territory of Wisconsin.—The survey of the part which was the most difficult to determine in reference to this boundary, between the head waters of the rivers which empty into the two lakes, Michigan and Superior, has been completed, and the report and drawings are daily expected at this office.

1842-1-24, U. S. Senate Journal, 27th Congress, 2nd Session, p. 117.

Information About Mich.-Wis. Bound. Called for

Mr. Porter presented the following resolution; which was considered, by unanimous consent, and agreed to:

Resolved, That the Secretary of War be directed to inform the Senate whether a report and drawings of the survey authorized by law in March last, with a view to the establishment of the boundary line between the State of Michigan and the Territory of Wisconsin, have yet been made to the department by the surveyor appointed to that duty; and if so that he transmit them to the Senate, together with such other information as he may possess on this subject, not heretofore communicated.

[fol. 1062] 1842-3-8, U. S. Senate Documents, 27th Congress, 2nd Session, v. 3, No. 170

Capt. Cram's 2nd Report

Report on the Survey of the Boundary Between Michigan and Wiskonsin

The operations relative to the survey of the boundary between the State of Michigan and the Territory of Wiskonsin for the summer of 1841, have been confined to the objects directed in the order from the Bureau of Topographical Engineers of 31st March, 1841, in which I was instructed as follows:

"Your operations should have in view a correct delineation of the country between the head waters of the Menomonee and Montreal Rivers, so that all the matter requisite to determine a boundary between those two points can be laid before Congress. A correct survey of these two rivers should also be made, which will probably be the extent of your operations for this year."

I. Delineation of the country between the head waters of the Menomonee and Montreal Rivers—From the survey as far as it was prosecuted in the autumn of 1840, (Senate Doc. 151, 26th Congress—2nd Sess.) the conclusion was drawn, that there was not to be found existing in nature any continuous natural boundary—as had been supposed in the act of Congress defining this boundary—between the head waters of the Menomonee and Montreal Rivers; and therefore it became necessary to make a delineation of the country between these head waters and along in the intended direction of the route of this boundary.

[fol. 1063] Accordingly the survey of this intervening district was commenced at Lac Vieux Desert (see Map No. 1) the place, Where operations were stopped in the autumn of 1840—and was extended in the direction as nearly as could conveniently be ascertained, towards the head waters of the Montreal.

After reaching what was supposed to be those head waters, the line of the survey was carried down stream to Lake Superior—when it was discovered that the Ontonagon and not the Montreal had been reached; and thus it was conclusively proven that the head waters of the Montreal were to be found a very considerable distance farther towards the west than had formerly been supposed. And the evidence of this circumstance was very much strengthened by having

discovered the year before, that Lac Vieux Desert was the head of the Wiskonsin, which was known to run towards the south—instead of being as was formerly supposed and represented on the maps—the head of the Montreal.

Map No. 1, exhibits the head waters of the Montreal as they were subsequently found and during the progress of our survey. The point designated 'Astronomical Station No. 2' is the head proper of the Montreal River of Lake Superior, and is the junction of two inconsider*alb*e streams not more than 20 or 30 ft. wide called Balsam and Pine Rivers.

The latter of these streams was explored to its very heads and found to come from a small lake, and all its feeders are represented on the map (No. 1). This small lake was connected by an offset line with the main line of the survey; so that if Congress should deem it necessary or expedient to constitute this little lake—which I have called Pine Lake—as the head of the Montreal River its position will be accurately known.

[fol. 1064] Departing from 'Astronomical Station No. 2' the main line of the survey was carried along from the head of the Montreal so as to intersect the Manitouish River which is a principal tributary of the Chippewa River; and thence up this tributary to the eastern extremity of Trout Lake where 'Astronomical Station No. 3' was fixed.

The country was examined laterally to the main line and is shown by the dotted lines on the map; and it may be said that there is no direction that can be followed from an assumed point as a center, which will not lead into a series of small lakes in this part of the country.

These little lakes so beautifully diversified in size, shape and scenery, are but the limpid springs which form the summit reservoirs that nature seems to have furnished with admirable foresight for a never failing supply to the Chippewa, the Wiskonsin, the Menomonee, the Ontanogon and several smaller streams such as the Montreal, the Carp, the Irow, etc.

The valleys and ravines through which the little streams from these lakes meander, are rich and often present bottoms of considerable width bearing a luxuriant growth of native grass.

The high lands were dry and not very much broken; and are generally covered with pine—white and yellow—and oak occasionally. These high lands are in the process—owing to the destructive ravages of fires—of fast approaching to prairie—such as exist in the southern and western parts of the territory: And leave little doubt in the mind of a close observer of the cause of these prairies.

From Trout Lake 'Astronomical Station No. 3'—the line of the survey was carried with a view to intersect the Wiskonsin River as [fol. 1065] will be seen by the map; thence along in the vicinity of this river to the original point of starting, on South Island in Lac Vieux Desert.

The length of the surveyed line from the head of the Montreal (As. St. No. 2) to eastern extremity of Trout Lake (As. St. No. 3) is 43 miles 3,188 feet.

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The length of the off-set line to the lake heading Pine River is 6 miles 1,161 feet.

The length of the line from Trout Lake (As. St. No. 3) to Lac Vieux Desert (As. St. No. 4) is 35 miles 2,987 feet.

The length of the surveyed line from Lac Vieux Desert (As. St. No. 4) to extremity B of base line at Lac Brule is 15 miles 143 feet.

The whole length of the survey to the head of the Montreal to the head of the Brule therefore becomes 100 miles 2,199 feet.

Map No. 1 is the reduced map of this total line upon a scale of 3/4 of one inch to the mile from the original maps which were projected upon larger scales immediately from the field notes of the surveys.

A straight line from the middle of Lac Vieux Desert to the nearest branch (the Brule) of the Menomonee would make an angle with a straight line from said middle to the head of the Montreal—and it must be acknowledged that a line with such an elbow would make an awkward boundary between two states.

As there is no natural boundary to be had between the head waters of these two rivers—the Menomonee and the Montreal—it would seem that a straight line from the head waters of one to those of the other would be much preferable to an indirect line composed of two which would make an angle with eac*t* other.

[fol. 1066] To complete the boundary however, either a direct or an indirect line—as Congress may see fit to designate—will have to be run and marked out on the ground for at least 60 miles if the direct line be adopted, and for more than that distance if the angular route be insisted upon. I say insisted on, for the present law makes the middle of Lac Vieux Desert a point in the boundary.

A direct line from the head of Brule River (Lac Brule) to the head proper of the Montreal (As. St. No. 2) will have an approximate bearing of N. 76 degrees W.; and its total length will be in the neighborhood of 60 miles.

The running and marking of such a line oblique to the meridian might be easily accomplished by an application of the principles of practical astronomy, which are so well known as to need no description here.

The necessity of defining this portion of the boundary between the State of Michigan and the Territory of Wisconsin so as to close the gap of 60 miles, and the expediency of marking it out upon the ground are questions sufficiently answered by reverting to the consequences heretofore arising from neglecting until too late a period to establish boundaries between two adjoining states.

Embarrasssment greater or less will most unquestionably be thrown in the way of running and marking the line under consideration, by the Indians who are scattered through this portion of the country; and the longer the work is deferred the more will the spirit of opposition increase—a spirit which has very clearly manifested itself in a secret combination of Chiefs last winter to thwart the operations of the past summer.

Map No. 2 represents the survey as extended down the Ontonagon [fol. 1067] River to Lake Superior. The whole length of the line

as run from Lac Vieux Desert to Lake Superior is 77 miles 1,076 feet. In the west branch of this river is the celebrated copper rock of many tons weight. The rock is imbedded in the stream and without close observation would not be readily distinguished. The idea of boating this rock bodily down the river into Lake Superior is preposterous.

Map No. 3 represents the Wisconsin River as well as the West Branch of the Wolf—in much more accurate shape than has before been presented. The upper part of the Wiskonsin came within the field of operations, and therefore it was carefully explored and connected with the survey; and the line was so run as to give a sufficiently accurate delineation of this stream from Lac Vieux Desert several miles down southward. Lac Vieux Desert is the principal head of the Wiskonsin and the stream is navigable with canoes, all the way up into the lake.

II. Survey of the Montreal River of Lake Superior—This river was surveyed from its mouth up to its highest source—and is represented on Map No. 4, from which it will be perceived that the streams feeding this river almost all come from the west: indeed there are none entering from the east that can be considered more than small spring brooks or drains from swamps: none of these are so broad that they cannot be stepped across without wetting a foot.

The tributaries from the west generally head in small lakes, and on reaching the Montreal are deflected towards the north, by the dividing ridges separating the Montreal from the head waters of the other rivers running into Lake Superior, such as the Carp, the Iron & the Ontonagon.

[fol. 1068] The head proper of the Montreal is to be regarded, as before stated, at the junction of the Balsam and the Pine. At this point in times of high water a canoe may be put in and safely run to the north by making several portages.

The general character of the Montreal, as to importance, is sufficiently well described in my report of last year. The copper veins which exist for many miles along the south coast of Lake Superior extend quite to the Montreal and there is no doubt of their extending farther west than the valley or rather the ravine of the river.

The Montreal is but a secondary stream to say the best for it; it presents however a great variety of beautiful scenery; and the extreme wildness of its features possesses peculiar charms for the lovers of the picturesque.

This river however will serve as a good natural boundary from its entrance into Lake Superior, to its head. The distance in a direct line from Astronomical Station No 1 to Astronomical Station No. 2 is 18 miles 963 feet; and the length of the survey along the river between the same points is 34 miles 2,867 feet.

III. Survey of the Menomonee River—Map No. 5 represents the Bruli and Menomonee Rivers which have also been surveyed agreeably to the instructions from the Bureau.

The Bruli is the principal tributary of the Menomonee and is that branch which was contemplated in the law as coming nearest Lac Vieux Desert. The whole length as made by the survey from station B at Lac Bruli, to its junction with the Menominee is 54 miles 950 feet.

The Bruli contains 59 islands of various sizes from a mere patch to two or three acres in area.

The length of the portion of the Menomonee from said junction of the Bruli (Pish-e-kum-e Falls) down to a point near White Rapids [fol. 1069] is 62 miles. From the White Rapids to the entrance into Green Bay it is about 60 miles by way of the stream. The map of this lower portion of the river has been made from public surveys—the appropriation for this boundary last year not being sufficient to include the survey of the lower part of the Menomonee in the past summer's operations; the land surveys give points on the river only at distances of one mile due north and east lines along the west bank of the stream.

The general character of these two rivers—the Menomonee and the Bruli—were described with so much minuteness in my last year's report, that nothing can be added here without being a mere repetition.

The Bruli and the Menomonee constitute a very good boundary. The precaution should be taken however of dividing the numerous islands, so that some may fall within one, and the remainder within the other state. The number of islands within the Menomonee amounts to 131. Eighteen of the principal contain 2,304 acres; some of these are over one mile in length and from ⅛ to ¼ mile in breadth—and are covered with an excellent growth of pine.

Innumerable channels occur among the group of islets, and the best way of disposing of the islands would be to declare by legislative enactment that all the islands down to a certain point (to be specified) shall belong to Michigan and all below that point to Wiskonsin. A case of litigation has already commenced, I am informed, in reference to one of these islands, and the court has been at a loss to decide from not knowing to whose jurisdiction it belongs.

The aggregate of all the surveyed lines will exhibit a total of 328 miles 1,679 feet which have been run during the last summer in re- [fol. 1070] lation to this boundary. To which should be added the very careful reconnaissance—by means of bearings and times, of over 240 miles of the upper Wiskonsin and the West Branch of the Wolf River. This flying survey was made in canoes in the course of our return from the field of operations without any expense in addition to what would have accrued in returning without such a reconnaissance; and this reconnaissance has developed a complete knowledge of the country in the valley of the upper Wiskonsin, and in that of the west branch of the Wolf—of which very little has hitherto been known by the white man.

IV. Lastly, the five maps which, until now, have been separately considered, are combined by a proper connexion of the survey from

a General Map No. 6— so as to exhibit on a scale of 20 miles to 1 inch, the whole route of the boundary all the way through from Green Bay to Lake Michigan to Lake Superior; also all the parts of Michigan and Wiskonsin which can possibly be supposed to have any bearing either direct or indirect, upon the question of this boundary.

This general map has been compiled with care and it is presumed to have all the accuracy that can be desired for the immediate object in view.

The latitudes and the longitudes of the important points of the boundary survey were determined by the Sextant and Chronometer, with as much accuracy as the very limited amount of the appropriation would authorize; and although they must be regarded as only tolerably good approximations still these latitudes and longitudes were of very essential benefit and practicability in conducting the operations of the survey—Indeed had it not been for the unerring guide of the stars and the sun and moon through the agency of the sextant and chronometer, there would have been much groping in the dark, and I verily believe we should have found it impossible [fol. 1071] to connect our lines so as to make the survey 'return into itself' without consuming another season.

It only remains necessary to make the survey of the channels of Green Bay and of the lower part of the Menomonee River. Then, and not until these surveys shall have been completed, will the survey be finished to leave nothing more to be desired.

This labor together with the running and marking the line, to be designated, between the head waters of the Menomonee and of the Montreal, may be accomplished in another season by means of an appropriation of $7,000 provided the appropritaion be made so the party can be early on the way to that remote region, and no obstacle be experienced from the Indians in that quarter.

Table of heights above or below general level of surface Lake Superior at mouth Montreal River as determined by mountain barometer and thermometer during the progress of the boundary survey

The sign + indicates that the point or place is above Lake Superior and the sign — indicates that it is below Lake Superior.

Places or stations	Feet
Head of Montreal River (Ast. Sta. No. 2 on ground)	+ 804.0
Eastern Extremity of Trout Lake (Ast. Sta. No. 3 level of surface water)	+ 943.0
Lac Vieux Desert (Ast. Sta. No. 4 at level of surface water)	+ 933.0
Racine, W. T. (General level surface water in Lake Michigan)	— 18.4

Note.—I have much confidence in these results. The general level of the country between Lake Michigan and Lake Superior will not attain 950 ft. There may however be some elevations that will attain perhaps 1,000 ft.—such as the Pacific Hills.—T. I. C.

[fol. 1072] Table of Approximate Latitudes and Longitudes Used in Constructing the General Map No. 6

Place	Latitude north	Longitude west of Greenwich	By whom determined
South Bend of Lake Michigan	41 37′ 8″	87 9′ 06″	A. Falcott.
Point on Mississippi	41 38 10.5	90 13 45	do.
Mouth St. Peters River	44 53 05	93 06 01.5	Mr. Nicollet.
Falls of St. Anthony	44 58 40	93 11 30	do.
Fond Du Lac (Lake Superior)	46 39 50	92 11 02	do.
La Pointe (Lake Superior)	46 47 10	90 50 36	do.
Mouth of Montreal River	46 33 0.5	90 44 30	T. I. Cram.
Head of Montreal River	46 18 38	90 24 38	do.
Trout Lake	46 04 02	89 54 07	do.
Lac Vieux Desert (South Is.)	46 07 31	89 20 13	do.
Lac Bruli (Sta. 13)	46 00 46	89 10 32	do.
Mouth Menomonee River	45 17 16.4	87 27 21	do.
Racine, W. T. (West shore Lake Michigan)	42 49 33	87 40 22	do.

These are as close approximations to the truth as probably can be obtained.

The portion of the general map representing Lake Superior is taken from the map of that lake published by the Society for the Diffusion of Useful Knowledge—which was constructed from Minute surveys by the British Government; and is as perfect a chart as need be made—from my own personal observation I can say that our coast of the lake is delineated with great accuracy. The indentions, projections, mouths of the rivers and islands are laid down with such minuteness as to prove that great pains must have been taken by the officer charged with the survey.

[fol. 1073] Several of the principal lines, particularly the rivers, which are shown by the general maps have been surveyed and explored under my own direction by order of the Bureau during the past three years in which I have been on duty in this portion of the country.

This general map which I have presented in skeleton. I have projected by taking into account the oblateness of the earth—and conceiving a cone circumscribing the earth in the parallel at latitude 45 north, and developing this cone on a sheet of paper. The details and practical formulas for the construction of the meridians and parallels are fully given in the accompanying appendix, to which attention is respectfully solicited.

I have the honor to be, Sir very respectfully, your obedient servant,
(Signed) T. I. Cram, Capt. T. E.

Racine, W. T., 10 February, 1842.

To Colonel I. I. Abert, U. S. Corps Top'l Eng'rs, Washington City, D. C.

[fol. 1074] 1842-3-19, U. S. Senate Documents, 27th Congress, 2nd Session, v. 3, No. 147.

Wisconsin Asks for Boundary of 1805

Resolutions of the Legislative Assembly of Wiskonsan Territory in Relation to the boundary between Michigan and Wiskonsan, March 19, 1842, with the message of the Governor of the Territory

"It is ascertained that a part of the western boundary of the State of Michigan, as prescribed by the act of Congress of the 15th of June, 1836, is an impracticable line, there being no such natural boundary as is therein described. The Lake of the Desert does not discharge its waters into the Montreal River."

As it becomes necessary to designate a new line the governor urges, and the Assembly concurs in a resolution that the Michigan-Wisconsin boundary be made that of the act of 1805, a line drawn due north to the Canadian boundary from the northern extremity of Lake Michigan.

1842-5-18, U. S. Statutes at Large, v. 5, p. 485

Appropriates $7,000

An Act Making Appropriations for the Civil and Diplomatic Expenses of Government for the Year Eighteen Hundred and Forty-two, May 18, 1842

No. 171. For completing survey of the boundary between the State of Michigan and Territory of Wisconsin, seven thousand dollars.

This appropriation appears to have been used in the survey of Green Bay.

[fol. 1075] 1842-12-14, U. S. Senate Journal, 27th Congress, 3rd Session, p. 29

Senate Bill No. 9 Introduced

Mr. Porter, agreeable to notice, asked and obtained leave to bring in a bill (S. 9) to amend an act, entitled, "An Act to establish the northern boundary line of the State of Ohio, and to provide for the

admission of the State of Michigan into the Union, upon the conditions therein expressed," approved June 15, 1836;

Which was read the first and second times, by unanimous consent, and, with the papers on file, referred to the Committee on the Judiciary.

Also Congressional Globe, v. 12, p. 50.

1843-1-17

Senate Bill No. 9

A bill to amend an act entitled "An act to establish the northern boundary of the State of Ohio and to provide for the admission of the State of Michigan into the Union upon the conditions therein expressed," approved June 15, 1836.

Whereas, since the passage of the act to which this is amendatory, that part of the boundary line as described in the second section thereof, which was designed to connect the head waters of the Montreal and Menominee rivers, is found, from an actual survey of the country, to be impracticable, in consequence of an erroneous assumption in said act that the said Montreal river had its source in the Lake of the Desert: And whereas, doubts exist and difficulties may arise as to the jurisdictional rights of the State of Michigan and the Territory of Wisconsin over the islands in said Menominee river and in Green Bay; now, for the purpose of defining with certainty the said boundary, and of giving effect to the same according to the true intent and meaning of the act aforesaid,

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

[fol. 1076] That the boundary line between the State of Michigan and Territory of Wisconsin, shall, in case the same shall be ratified by the said state as hereinafter mentioned, be established and confirmed as follows:

After the said boundary shall have arrived at the mouth of Montreal river, as described in said act, it shall be continued as follows: thence through the main channel of said river to the head thereof, as marked upon the survey made by Captain Cram, of the Corps of Topographical Engineers, in eighteen hundred and forty-one; thence from the said head in a direct line to the southernmost shore of the Lake of the Desert; thence in a direct line to the southernmost shore of Lake Brule; thence along the southern shore of said lake to Brule river, a tributary of the Menominee, and down the channel of said river to the Menominee; thence down the channel of the Menominee to Green Bay; thence to the main ship channel of Green Bay, which passs on the western side of the islands situate therein; thence along said main ship-channel of Green Bay to the middle of Lake Michigan, as further described in said act.

Sec. 2. And be it further enacted, That, to prevent all disputes in reference to the jurisdiction of islands in the said Brule and Menomi-

nee rivers, the line be so run as to include within the jurisdiction of Michigan, all the islands in the Brule and Menominee rivers, (to the extent in which said rivers are adopted as a boundary,) down to, and inclusive of, the Quinnesec falls of the Menominee, and from thence the line shall be so run, as to include within the jurisdiction of Wisconsin all the islands in the Menominee river, from the falls aforesaid down to the junction of said river with Green Bay.

[fol. 1077] Sec. 3. And be it further enacted, That the survey and marking out of said boundary shall be continued as heretofore under the direction of the War Department; and that the adjustment of boundary as fixed in this act shall not be binding on Congress, unless the same shall be ratified by the State of Michigan on or before the — day of ——, one thousand eight hundred and forty-seven.

1843-1-17, U. S. Senate Documents, 27th Congress, 3rd Session, v. 3, No. 80

Com. Report on Senate Bill No. 9

Mr. Clayton made the following report:

The Committee on the Judiciary, to whom was referred the bill to amend an act entitled, "An act to establish the northern boundary of the State of Ohio, and to provide for the admission of the State of Michigan into the Union upon the conditions therein expressed, approved June 15, 1836," Report:

That, by the said act of the 15th of June, 1836, admitting the State of Michigan into the Union, the boundary of the State is described, and the following is a part of that description, viz.: Thence in a direct line through Lake Superior to the mouth of Montreal river, thence through the middle of the main channel of the said river Montreal to the middle of the Lake of the Desert, thence in a direct line to the nearest head water of the Menominee river, thence through the middle of that fork of the said river first touched by the said line to the main channel of the Menominee river, thence down the center of the main channel of the river to the center of the most usual ship channel of the Green Bay of Lake Michigan, thence through the most usual ship channel of the bay to the middle of Lake Michigan: thence, &c.

[fol. 1078] On carefully reading the foregoing description of the boundary it will be seen that at the time of passing the act establishing that boundary, it was believed that the Montreal river had its source in the Lake of the Desert, which is now known not to be true; and that of all the head waters discharging themselves into the Menominee river, one would be found nearer to the Lake of the Desert than any other, and that the nearest head of the Menominee to the lake would be a branch of the Menominee, and not a lake as it is now ascertained to be.

By an act of Congress approved June 12, 1838, the surveyor general of Ohio, Indiana, Michigan and Wisconsin land districts under the direction of the President of the United States, was required to

cause to be surveyed, marked, and designated, the boundary line between the State of Michigan and the Territory of Wisconsin, agreeably to the boundary as established by the act of 1836. It will be seen by the letter of Mr. Whitcomb, Commissioner of the Land Office, of the 4th June, 1841, that under this act no survey was attempted for two reasons: 1st, that the sum appropriated was entirely inadequate to the purpose; and 2nd, that it had been represented that the line to be run was an impracticable one. See Senate Document 151, 26th Congress, 2nd session.

By an act approved 3rd March, 1841, the sum of six thousand dollars was appropriated for the purpose of designating and marking the boundary line between the State of Michigan and the Territory of Wisconsin, according to the true intent and meaning of the act of 1836, to be expended under the direction of the Secretary of War in the survey and examination of the country situated between the mouths of the Menominee and Montreal rivers, and he was directed to cause to be made a plot or plan of such survey and examination, and to cause it to be returned to Congress with all convenient des-
[fol. 1079] patch.

Captain Cram of the Corps of Topographical Engineers, was detailed for this service, and his report is to be found in Senate Document 151, 2nd Session, 26th Congress, before referred to, accompanied by several maps. This officer found it to be impracticable to establish the boundary as it is described in the act of 1836. He ascertained that the Lake of the Desert was not the source of the Montreal river, as was assumed by the act of Congress, but was far distant from it. The Lake of the Desert is the source of the Wisconsin, which runs in a direction almost opposite to the course of the Montreal. Captain Cram suggests another difficulty arising from the attempt to pursue the description of the boundary in the act of Congress. The Committee will use his own language. "From this map (Doc. 151), it will be seen that the portion of the act of Congress, or of the description of the boundary which reads 'Middle of the Lake of the Desert, thence in a direct line to the nearest head of the Menominee river' can now be complied with, and the 'direct line' run on the ground, or laid down on the map, provided the starting point, the middle of the Lake of the Desert, shall be first fixed. But it may be asked what is the middle of the Lake of the Desert? From the contour of this lake, as exhibited in Map No. 3, it will at once be perceived that the term 'middle' as applied to it, is very indefinite; and that it would require much labor to determine its middle, and to establish a monument so as to make a corner, or a point in the boundary. The labor of course would not be objected to, but if required to be performed, means adequate to the end should be provided."

Upon the whole this officer has given it as his opinion, that it is impracticable to establish the boundary between Michigan and Wis-
[fol. 1080] consin, as that boundary is described in the act of Congress. The next thing is to establish a boundary as near that as possible. This the committee believe the bill referred to them effects. It fixes upon natural and permanent objects, not liable to either un-

certainty or change; and it approaches as near to the boundary supposed to be intended by the act of Congress as is practicable, having due regard to certainty in the description. And as Wisconsin most probably will shortly be admitted as a State into the Union, it is important that this boundary should be so defined as to admit of no controversy hereafter. The loss of a minute portion of territory by either Michigan or Wisconsin, is not so important as a well defined and undisputed boundary between them.

The bill proposes to run the line from the head of Montreal river to the southern shore of the Lake of the Desert, and thence in a direct line to the southern shore of Lake Brule, (the source of the river Brule, the nearest head water of the Menominee to the Lake of the Desert), thence around the southern shore of lake Brule to the channel of the river Brule, thence down that river to the channel of the Menominee river. The objects here pointed out are fixed and known objects, and were ascertained by the survey of 1841.

After descending the channel of the Menominee to the center of the most usual ship channel to the Green Bay of Lake Michigan, the boundary is made to run by the act of 1836, thence through the center of the most usual ship channel of Green Bay to the middle of Lake Michigan; and upon this Captain Cram in his report makes these remarks: "From Map No. 4, which accompanies this (his) [fol. 1081] report, it may be inferred that the islands which are in the eastern part of Green Bay would cause several ship channels. It is a well known fact to all who have any personal knowledge of the navigation of this bay, that there are at least two ship channels which are in use by all classes and kinds of craft that navigate the great lakes. It would be next to an impossibility to collect the testimony that would be necessary to decide the question which of these is the most usual ship channel of Green Bay. And it is not easy to conceive any other mode than by testimony, by which the most usual ship channel could be ascertained. But suppose this method of collecting testimony to be practicable, it might occur that all the evidence that could be obtained on the subject would prove that one of these channels is just as much in use as the other; in which case it would only be shown that there is no such thing as 'The most usual ship channel' in this part of the bay."

"Although the term (phrase) 'most usual ship channel' is used in the description of the boundary, still it is rather to be presumed that this term was intended to imply in the act of Congress, the best ship channel of all that may be found in that portion of Green Bay referred to. An equitable construction of the law would convey this idea; for it is not to be presumed that of two states bordering upon navigable ship channels, either state would or could in equity claim to appropriate the best of these channels exclusively to herself."

"If the interpretation of the term 'most usual Ship channel' implying the best ship channel be correct, it will be necessary to make a complete hydrographic survey of all the channels that exist in that portion of Green Bay east of the mouth of the Menominee River;

[fol. 1082] in order to discover the best ship channel, if there be such among all the ship channels now in use in that part of the bay."

"After this survey shall have been made, the particular channel along which the boundary shall run may be declared."

The bill referred to the committee disposes of these difficulties by making the western channel the boundary, which throws the islands in that bay to Wisconsin.

The committee report the bill and recommend that it pass.

This bill (No. 9) contains the first reference to the survey made by Captain Cram.

1843-2-28, U. S. Senate Journal, 27th Congress, 3rd Session, p. 240

Bill No. 9 Passed by Senate

The following bills having been reported by the Committee correctly engrossed, were severally read the third time S. 9, Bill to amend an Act, entitled, "An Act to establish the northern boundary line of the State of Ohio, and to provide for the admission of the State of Michigan into the Union, upon the conditions therein expressed," approved June 15, 1836:

Resolved, That they pass, and that their respective titles be as aforesaid.

Ordered, That the secretary request the concurrence of the House of Representatives therein.

This bill appears not to have been passed by the House.

[fol. 1083] Senate Bill No. 6 Introduced

1843-12-13, U. S. Senate Journal, 28th Congress, 1st Session, p. 35

Agreeable to notice, Mr. Porter asked and obtained leave to bring in a bill (S. 6) to amend an Act entitled, "An Act to establish the northern boundary line of the State of Ohio, and to provide for the admission of the State of Michigan into the Union upon the conditions therein expressed," approved June 15, 1836; which was read the first and second times by unanimous consent, and, with the papers on file, referred to the Committee on the Judiciary.

1844-1-30, U. S. Senate Documents, 28th Congress, 1st Session, v. 2, No. 70

Com. Report on Senate Bill No. 6

The Committee on the Judiciary to whom was referred the bill (S. 6) to amend an Act entitled, "An Act to establish the northern boundary line of the State of Ohio, and to provide for the admission of the State of Michigan into the Union," approved June 15, 1836,

Report, That this bill, or one in all respects similar to it, was, at the last session of Congress, referred to the Committee on the Judiciary, and they made a detailed report in writing, which the committee adopt as their report, and append hereto.

See Senate Documents, 27th Congress, 3rd Session, v. 3, No. 80, which appears on p. 52 of this report.

This Bill (S. 6) was reported without amendment and appears on p. 50 of this report.

U. S. Senate Journal, 28th Congress, 1st Session, p. 94.

[fol. 1084] 1844-3-28, U. S. Senate Journal, 28th Congress, 1st Session, p. 199

Bill No. 6 Passed by the Senate

The following bills having been reported by the Committee correctly engrossed, were severally read a third time:

S. 6, Bill to amend an Act entitled, "An Act to establish the northern boundary line of the State of Ohio, and to provide for the admission of the State of Michigan into the Union, upon the conditions therein expressed," approved June 15, 1836;

Resolved, That the said bills pass, and their respective titles be as aforesaid.

Ordered, That the secretary request the concurrence of the House of Representatives therein.

This bill appears not to have been passed by the House.

1845-11-29, U. S. Executive Documents, 29th Congress, 1st Session, v. 3, No. 16

Report of the Commissioner of the General Land Office

"Early provision should be made by law (as the surveys are now progressing in that quarter) for surveying and properly marking that portion of the boundary between Michigan and Wisconsin, from the Menominee to the Montreal rivers which is not clearly defined."

1846-6-9, U. S. House Journal, 29th Congress, 1st Session, No. 479

Enabling Act for Wisconsin

"The House proceeded to the consideration of the bill (No. 105) to enable the people of Wisconsin Territory to form a constitution and state government, and for the admission of such State into the Union, reported from the Committee of the whole House yesterday, with amendments.

The said amendments were concurred in; when Mr. McClelland moved to amend the first section of the bill as follows, to wit:

[fol. 1085] Strike out all after the words 'Green Bay,' in line 13, of section 1, to the word 'thence' in line 19, and insert the following in lieu thereof: 'To the mouth of the Menominee river; thence up the channel of said river to the Brule river; thence up said last mentioned river to lake Brule; thence along the southern shore of Lake Brule in a direct line to the center of the channel between Middle and South Islands, in the Lake of the Desert; thence in a direct line to the head waters of the Montreal river, as marked upon the survey made by Captain Cram; thence down the main channel of the Montreal river, to the middle of Lake Superior."

Which amendment was agreed to.

Mr. McClelland moved further to amend the said bill by adding to the second section thereof the following:

"And be it further enacted, That, to prevent all disputes in reference to the jurisdiction of islands in the said Brule and Menominee rivers, the line be so run as to include within the jurisdiction of Michigan all the islands in the Brule and Menominee rivers (to the extent in which said rivers are adopted as a boundary) down to and inclusive of the Quinnesec falls of the Menominee; and from thence the line shall be so run as to include within the jurisdictions of Wisconsin all the islands in the Menominee river, from the falls aforesaid down to the junction of said river with Green Bay: Provided, That the adjustment of boundary as fixed in this act between Wisconsin and Michigan shall not be binding on Congress unless the same shall be ratified by the State of Michigan on or before the first day of June, one thousand eight hundred and forty-eight.'

Which said amendment was agreed to."

[fol. 1086] 1846-8-6, U. S. Statutes at Large, v. 9, p. 56

Enabling Act for Wisconsin Boundaries as Above

An Act to Enable the People of Wisconsin Territory to Form a Constitution and State Government and for the Admission of Such State Into the Union.

Be it enacted, * * * That the people of the Territory of Wisconsin be, and they are hereby, authorized to form a constitution and state government, * * * with the following boundaries, to wit: Beginning at the north-east corner of the State of Illinois * * * thence running with the boundary line of the State of Michigan, through Lake Michigan, Green Bay, to the mouth of the Menominee River; thence up the channel of said river to the Brule river; thence up said last mentioned river to Lake Brule; thence along the southern shore of Lake Brule in a direct line to the center of the channel between Middle and South Islands, in the Lake of the Desert; thence in a direct line to the head waters of the Montreal river, as marked upon the survey made by Captain Cram; thence down the main channel of the Montreal River to the middle of Lake Superior; * * *

Division of Islands in Menominee

Sec. 2. And be it further enacted, That, to prevent all disputes in reference to the jurisdiction of islands in the said Brule and Menominee rivers, the line be so run as to include within the jurisdiction of Michigan all the islands in the Brule and Menominee rivers, (to the extent in which said rivers are adopted as a boundary,) down to, and inclusive of, the Quinnesec Falls of the Menominee; and from thence the line shall be so run as to include within the jurisdiction of Wisconsin all the islands in the Menominee river, from the falls aforesaid down to the junction of said river with Green Bay: Provided, That the adjustment of boundary, as fixed in this act, between Wisconsin and Michigan shall not be binding [fol. 1087] on Congress, unless the same shall be ratified by the State of Michigan on or before the first day of June, one thousand eight hundred and forty-eight.

No evidence of the ratification here called for has been found.

The division of the islands in the Menominee river is the same as in Senate Bills No. 9 and No. 6 above.

1846-8-10, U. S. Statutes at Large, v. 9, p. 97, Sec. 4

$1,000 Appropriated for Survey by Surveyor General from Brule to Montreal River

An Act Making Appropriations for the Civil and Diplomatic Expenses of the Government for the Year Ending the Thirtieth Day of June, Eighteen Hundred and Forty-seven, and for Other Purposes.

Sec. 4. And be it further enacted, That the surveyor General north-west of the Ohio, under the direction of the President, be, and hereby is, required to cause to be surveyed, marked and designated, so much of the line between Michigan and Wisconsin as lies between the source of Brule river and the source of Montreal river, as defined by the 'Act to enable the People of Wisconsin Territory to form a Constitution and State Government, and for the admission of such State into the Union;' and the expense of such survey shall be paid, upon the certificate of the said surveyor-general, out of any money in the treasury not otherwise appropriated, not exceeding one thousand dollars.

[fol. 1088] 1846-9-15

Instructions to Surveyor General, Lucius Lyon

General Land Office, Sept. 15th, 1846.

Lucius Lyon, Esq., Sur. General, Detroit, Michigan.

SIR: By the fourth section of the Act of Congress approved 10th August, 1846, entitled "An Act making appropriations for the

Civil and Diplomatic expenses for the Government for the year ending the thirtieth day of June, eighteen hundred and forty-seven, and for other purposes" it is enacted, "That the Surveyor General north-west of the Ohio, under the direction of the President, be, and hereby is required to cause to be surveyed, marked and designated, so much of the line between Michigan and Wisconsin as lies between the source of Brule river and the source of Montreal river" as defined by the "Act to enable the people of Wisconsin Territory to form a Constitution and State Government, and for the admission of such State into the Union; and the expense of such survey shall be paid upon the certificate of the said Surveyor General, out of any money in the treasury not otherwise appropriated, not exceeding one thousand dollars."

The boundary of Wisconsin is described in the Act, the title of which is given in the above section, and which was approved 6th August, 1846, as follows, viz: "Beginning at the North-east corner of the State of Illinois, that is to say at a point in the center of Lake Michigan where the line of 42 degrees and 30 minutes of North latitude crosses the same; thence running with the boundary line of the State of Michigan, through Lake Michigan Green Bay to the mouth of the Menominie river; thence up the channel of said river to the Brule river; thence up said last mentioned river to Lake Brule; *thence along the southern shore of Lake Brule in a direct line to the center of the channel between Middle and South islands in the Lake of the Desert hence in a direct line to the head waters of the Montreal ri* s marked up the survey made by Captain Cram; thence down main channel of Montreal river to the middle of Lake Superior, thence through the center of Lake Superior to the mouth of the St. Louis river; thence up the main channel of said river to the first rapids in the same, above the Indian village, according to Nicollet's map; thence due south to the main branch of the river St. Croix; thence down the main channel of said river to the Mississippi; thence down the main channel of that river to the Northwest corner of the State of Illinois to the place of beginning" &c., and, "That to prevent all disputes in reference to the jurisdiction of islands in the said Brule and Menominie river the line be so run as to include within the jurisdicton of Michigan all the islands in the Brule and Menominie (to the extent in which said rivers are adopted as a boundary), down to and inclusive of, the Quinnessec falls of the Menominie; and from thence the line shall be run so as to include within the jurisdic-[fol. 1089] tion of Wisconsin, all the islands in the Menominie river from the falls aforesaid, down to the junction of said river with Green Bay."

The words underscored describe that portion of this boundary, which you are required to have surveyed; and that you may be fully advised of Captain Cram's operations in relation to that boundary and of the point fixed by him as the head waters of Montreal river mentioned in the fourth section of the act of 10th August, 1846, above mentioned, I send you a copy of the report on

his survey made by the President on the 1st Feby. 1841, (Senate Document No. 151, 2nd Session, 26th Congress) and a report of the Secretary of War on the same subject, dated 7 March, 1842 (Senate Document No. 170, 2nd Session, 27 Congress).

The President directs that you will take immediate measures to have surveyed, marked and designated, that portion of the boundary designated in the fourth section of the Act of August 10th 1846, above mentioned, that for the purpose you will employ one of your most experienced and competent Deputies, and instruct him to mark it in the most distinct and durable manner.

The latitude and longitude should be ascertained of the various points at which this line strikes and leaves Lake Brule and the Lake of the Desert and the point fixed as the head waters of Montreal river. Those points should also be designated permanently by raising mounds and fixing large stones in them with proper marks and descriptions of the points they indicate.

Then the survey is completed and approved you will please forward a plat of it to this Office; one to the Office of the Surveyor General at Dubuque—and retain a copy for the records of your office.

[fol. 1090] You will contract for this work on the best practical terms, taking care not to exceed the amount appropriated ($1000) and upon the return of the plat, with your certificate, and the account of the Deputy approved by you, payment will be made in the usual manner. The returns of the survey should be made if practicable, in time to be reported to Congress at the commencement of the next session.

Very respectfully, your obet. servant, James H. Piper, Acting Commissioner.

1846-12-16, Wisconsin Asks for Admission Into the Union

See preamble to act next below.

1847-3-3, U. S. Statutes at Large, v. 9, p. 178

Act Admitting Wisconsin, with Conditions

An Act for the Admission of the State of Wisconsin Into the Union

Whereas the people of the Territory of Wisconsin did, on the sixteenth day of December, eighteen hundred and forty-six, by a convention of delegates called and assembled for that purpose, form for themselves a constitution, and State Government, which said constitution is republican; and said convention having asked the admission of said Territory into the Union as a State, on an equal footing with the original States——

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the State of Wisconsin be, and the same is hereby, declared to be, one of the United States of America, and is hereby admitted into the

Union on an equal footing with the original States, in all respects whatever.

[fol. 1091] Sec. 2. And be it further enacted, That the assent of Congress is hereby given to the change of boundary proposed in the first article of said constitution, to wit: leaving the boundary line prescribed in the Act of Congress entitled "An Act to enable the people of Wisconsin Territory to form a Constitution and State Government and for the admission of such State into the Union," at the first Rapids in the River St. Louis, thence in a direct line southwardly to a point fifteen miles east of the most easterly point in Lake St. Croix, thence due south to the main channel of the Mississippi river or Lake Pepin, thence down the said main channel, as prescribed in said act.

Sec. 3. And be it further enacted, That the assent of Congress is hereby given to the resolutions adopted by said convention and appended to said constitution, and the Acts of Congress referred to in said resolutions are hereby amended so that the lands thereby granted and the proceeds thereof, and the five per cent of the net proceeds of the public lands, may be held and disposed of by said State, in the manner and for the purposes recommended by said convention: Provided, however, That the liabilities incurred by the territorial government of Wisconsin, under the act entitled "An Act to grant a Quantity of Land to the Territory of Wisconsin, for the Purpose of aiding and opening a Canal to connect the waters of Lake Michigan with those of Rock River," shall be paid and discharged by said State: And provided further, That the even numbered sections along the route of said proposed canal shall be brought into market, and sold at the same minimum price, and subject to the same rights of pre-emption to all the settlers thereon, at the passage of this act, as other public lands of the United [fol. 1092] States.

Sec. 4. And be it further enacted, That it is made and declared to be a fundamental condition of the admission of said State of Wisconsin into the Union, that the constitution adopted at Madison, on the sixteenth day of December, in the year one thousand eight hundred and forty-six, shall be assented to by the qualified electors, in the manner and at the times prescribed in the ninth section of the twentieth article of said constitution. And as soon as such assent shall be given, the President of the United States shall announce the same by proclamation; and therefore, and without any further proceedings on the part of Congress, the admission of said State of Wisconsin into the Union, on an equal footing in all respects whatever with the original States, shall be considered as complete.

1847-4-27

Contract and Bond of Wm. A. Burt, D. S., to Make the Survey Called for by the Act of 1846-8-10

This agreement, made this twenty-seventh day of April A. D. 1847, between Lucius Lyon, Surveyor General of the United States for the

States of Ohio, Indiana and Michigan, acting for and in behalf of the United States, of the one part, and William A. Burt of Macomb County, Michigan, of the other part, witnesseth, that the said William A. Burt for and in considerations of the conditions, terms, provisions and covenants, hereinafter expressed, and according to the true intent and meaning thereof, doth hereby covenant and agree with the said Lucius Lyon in his capacity aforesaid, that he the said William A. Burt in his own proper person, with the assistance of such chain-men, ax-men and flag-bearers, as may be necessary, agre-ably with the laws of the United States, and with the General [fol. 1093] Instructions to Deputy Surveyors, and such special instructions as he may receive from the said Surveyor General, will faithfully survey, mark and designate so much of the boundary line between the States of Michigan and Wisconsin as lie between the source of the Brule river and the source of the Montreal river, as defined by the Act to enable the people of Wisconsin Territory to form a constitution and State government, and for the admission of such State into the Union; viz: Beginning at the source of the said Brule river in Lake Brule and running "Thence along the southern shore of Lake Brule, in a direct line to the center of the channel between Middle and South islands in the Lake of the Desert; thence in a direct line to the head waters of the Montreal river," as marked upon the survey made by Captain Cram and that he will complete the surveys, in the manner aforesaid, and return the true and original field notes thereof to the office of the said Surveyor General, on or before the first day of January next ensuing the date thereof, (acts of God excepted), on penalty of forfeiture and paying to the United States, the sum mentioned in the annexed bond, if default be made in any of the foregoing conditions.

And the said Lucius Lyon in his capacity aforesaid, covenants and agrees with the said William A. Burt that on the completion of the surveys above named in manner aforesaid, there shall be paid to the said William A. Burt on account of the United States, by the Treasury Department, upon receipt of his account at the General Land Office, properly certified by the said Lyon in his capacity aforesaid, and accompanied by the approved plats of the surveys for which the account is rendered, as a full compensation for the whole ex- [fol. 1094] pense of surveying and making return thereof, Sixteen Dollars per mile, for every mile and part of a mile actually run and marked in the field, random lines and offsets not included, not to exceed, however, for the whole number of miles, the sum of one thousand dollars; and it is further understood and agreed between the parties to this agreement that the said Lucius Lyon reserves to himself, in his said capacity, and to his successor and successors in said office, the right to appoint a competent and disinterested Deputy to examine the work executed by the said William A. Burt at the expense of the said Burt if the work be found erroneous, whenever in the opinion of the said Surveyor General, the public interests require it: Provided no member of Congress or sub-contractor have any part in this contract.

In testimony whereof, the parties to these articles of agreement have hereunto set their hands and seals the day and year first above written.

Duplicate.

Lucius Lyon, Surveyor General. (L. S.) Wm. A. Burt, Deputy Surveyor. (L. S.)

Signed, sealed and acknowledged before us, the words "not to exceed, however, for the whole number of miles the sum of one thousand dollars," having been interlined before signing. J. E. Hyde, H. Burnham.

I, William A. Burt, Deputy Surveyor, do solemnly swear that I will faithfully and impartially execute, and make true return of, the surveys mentioned in the foregoing contract, in strict accordance with the laws of the United States, and the instructions which have been, or may be, given me by the said Surveyor General—to the best of my skill and ability.

William A Burt.

[fol. 1095] Sworn to and subscribed before me, at Detroit, in the State of Michigan, this 27th day of April, A. D. 1847. H. Burnham, Notary Public, W. C., Mich.

Bond

Know all men by these presents, that we, William A. Burt, of Macomb Co. Mich. as principal, and Samuel Axford, of Macomb Co. Mich. and Nathaniel Millerd of Oakland Co. Mich. as sureties, are held and firmly bound unto the United States, in the sum of Two Thousand Dollars, lawful money of the United States (being double the estimated amount which would be due by the United States to the said William A. Burt on the completion of the surveys named in the foregoing contract:) for which payment, well and truly to be made, we bind ourselves, our heirs, executors and administrators, and each and every of us and them, jointly and severally, firmly by these presents, signed with our hands and sealed with our seals, this twenty-seventh day of April A. D. 1847.

The condition of the above obligation is such that if the above bounden William A. Burt shall well and truly and faithfully, according to the laws of the United States and the Instructions of the said Surveyor General, make and execute the surveys which are required of him to be made by the foregoing contract, and return the field notes of the said surveys to the Surveyor General, in the manner, and within the period named in the said contract, then this obligation to be void, or otherwise it shall remain in full force and virtue.

Wm. A. Burt (L. S.), N. Millerd (L. S.), S. Axford (L. S.).

Signed, sealed and acknowledged in presence of us. Livingston Axford, Wells Burt.

[fol. 1096] 1847-5-1

Special Instructions of Surveyor General Lucius Lyon to William A. Burt, D. S.

Surveyor General's Office

Detroit, May 1, 1847.

SIR: On account of your great experience and ability in surveying you have been selected to "survey, mark, and designate, so much of the boundary line between Michigan and Wisconsin, as lies between the source of Brule River and the source of Montreal River, as defined by the act to enable the people of Wisconsin Territory to form a constitution and State government, approved the 6th of August, 1846."

In the execution of this work you will be governed strictly by the instructions contained in a letter from the Commissioner of the General Land Office dated the 15th of September, 1846, a copy of which is herewith enclosed.

In order to establish this boundary correctly, you will probably find it necessary first to run random lines to ascertain precisely the relative positions of the different points named in the act above referred to. When this shall have been done, the true line may be run, measured, marked, and established, either Northwesterly from the spruce of the Brule River, or Southeasterly from the source of the Montreal River, as you may find most convienent, taking care to mark the end of every mile and half mile by setting posts and taking and noting in your field notes at least one bearing tree on each side of the line to be marked with a notch, and blazing facing towards the posts in the same manner as in the surveys of the public lands. They should also be marked with the number of miles and half miles which each post is distant from the place of beginning, and the letter "M" to denote miles, should likewise be marked either [fol. 1097] to the right hand or below the number.

These posts may be measured to, and their distances from the intersection of township and section lines noted by the surveyors whose surveys may close on either side of this line, and thus an accurate connection of the surveys in Michigan with those of Wisconsin can be obtained; while the boundary between the two states will be accurately defined at so many points that no dispute can ever arise concerning it.

It is important that this boundary be well and very distinctly marked, and you will please pay particular attention to this, as well as all the other requirements of the Commissioner's letter above mentioned.

That portion of the boundary which you are to survey and establish is described in the first section of the act of the 6th of August, 1846, before mentioned, as follows, viz: (beginning at the outlet of Brule river from Lake Brule) "Thence along the southern shore of Lake Brule, in a direct line to the center of the channel between

Middle and South islands in the lake of the Desert; thence in a direct line to the head waters of the Montreal river, as marked on the survey made by Captain Cram."

It is hoped and expected that you will be able to complete this work so that returns may be made of it to the Commissioner of the General Land Office before the commencement of the next session of Congress.

Very respectfully, your obt. servt., Lucius Lyon, Survr. Genl.

P. S.—The reports of Capt. Cram mentioned in the Commissioner's letter, are already in your possession, and it is therefore unnecessary to enclose them.—L. L.

[fol. 1098] 1847-11-20

Report, Filed-notes, and Map of Wm. A. Burt, D. S.

A blue print of this map accompanies this report. His report and field notes are in the Land Office of the State of Michigan, and are in the customary form with the customary oath appended.

1847-12-13, U. S. Senate Documents, 30th Congress, 1st Session, Document 2, p. 75, v. 2

Burt's Survey Completed

William A. Burt, Esq., under contract dated the 27th day of April last, has completed the survey of so much of the boundary line between Michigan and Wisconsin as lies between the source of the Brule river and the source of the Montreal river, as defined by the "Act to enable the people of Wisconsin Territory to form a constitution and State government, and for the admission of such State into the Union," approved on the 6th of August, 1846, and his returns are expected in time to have a copy of his field notes and report thereon reach (here) before the meeting of Congress. A copy of his map of that boundary, showing the connection of the surveys in Michigan therewith, on a scale of eight miles to an inch accompanies this report.

1848-2-1

Wisconsin again asks for admission into the Union. See Preamble to Act next below.

1848-5-29, U. S. Statute at Large, v. 9, p. 233

An Act Admitting Wisconsin

Whereas the People of the Territory of Wisconsin did, on the first day of February, eighteen hundred and forty-eight, by a convention of delegates, called and assembled for that purpose, form for themselves a constitution and State government, which said constitution

is republican, and said convention having asked the admission of [fol. 1099] said Territory into the Union as a State, on an equal footing with the original States:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that the State of Wisconsin be, and is hereby, admitted to be one of the United States of America, and is hereby admitted into the Union on an equal footing with the original States, in all respects whatever, with the boundaries prescribed by the act of Congress, approved August sixth, eighteen hundred and forty-six, entitled "An Act to enable the people of Wisconsin Territory to form a constitution and State government, and for the admission of such State into the Union."

1848-6-1

Ratification by Michigan of the Menominee River boundary, as modified and described in the Act of 1846-8-6 required on or before this date. The Act of 1848-5-29 refers to the same boundaries. Evidence of formal ratification has not been found.

Reference may be had to the general map accompanying this report. More references to this boundary may be found in the Synopsis prepared by Mr. F. L. D Goodrich. Many more details relating to this boundary, with clues to many other sources of information regarding the same, appears in Mr. Goodrich's Review of Documents and Articles in the Library of the University of Michigan bearing thereon. Both the Synopsis and Review accompany this report. The Review contains in addition six references not found in the above named library.

[fol. 1100] There is transmitted herewith a copy of An Account of the Public Services of Thomas Jefferson Cram—1826 to 1869—showing the experience, attainments and high character of this man, as well as the great extent of his work and the variety of his duties and responsibilities.

Concerning William Austin Burt no such memorial is here presented. It may be found in a paper by Geo. H. Cannon, entitled The Life and Times of William A. Burt, of Mt. Vernon, Michigan, published in vol. 5, p. 115, of Michigan Pioneer Collections. He attended school but six weeks. Yet he became a millwright; a surveyor; an engineer; a commissioner of internal improvements in this state; an associate judge, by appointment; received various tokens of the appreciation of his fellow citizens; and was an inventor and scientific man of such unusual attainments that they were publicly commended by prominent scientists of his day both in this country and in England. So great was the confidence in his abilities that he was one of those selected to complete the reports of Dr. Houghton after his unfortunate death from drowning in the fall of 1845. He was the inventor of the Solar Compass and the Equatorial Sextant, instruments that exhibit a practical comprehension of certain principles of astronomy that is very extraordinary. He discovered the iron in Marquette county in 1844. No one can read an account of him with-

out becoming impressed with the power of his personality, as well as be astonished at his abilities, capacity and energy.

These men are mentioned, and this testimony offered, that it may become well known that the surveys of this boundary were made and directed by men well qualified to undertake the work. When it is [fol. 1101] recalled that in 1840, 1841 and 1847, the region traversed was a wilderness; unexplored except by trappers, traders, prospectors, and one or two scientific men; and that it was inhabited by unfriendly Indians, disposed to become hostile; a better idea may be obtained of the seriousness of the undertakings which were brought to so successful an issue.

After Congress passed the Act of 1836-4-20, forming the Territory of Wisconsin, for six years it seems to have labored steadily to define that part of the Boundary between Lake Michigan and Lake Superior. It expended $7,613.97 on the part between Green Bay and Lake Superior under the supervision of Capt. T. J. Cram on general topographical surveys to obtain trustworthy information regarding the region as a whole. When this information was obtained in March, 1842, it was made use of in drawing Senate Bill No. 9 in December, 1842. For the Burt survey $1,000 more was paid, making $8,613.97 expended by the end of 1847—a period of about eleven and one-half years. By this time Congress had caused this line to be marked on the ground where there was no natural object like the Montreal or Menominee river to define it, and it seems to have done all it could to divide the islands in the Menominee River between the two States, so as to prevent questions arising concerning jurisdiction over those islands. In these matters Congress seems to have followed the information furnished it by the surveys of Capt. Cram from the time those surveys were reported to it, and also to have followed the suggestions made by Capt. Cram in his reports, except in one important particular, his suggestion for a land mark on the [fol. 1102] highest part of Middle Island, Lac Vieux Desert. The middle of the channel between Middle and South islands is referred to instead. Congress appears to have taken no further action defining this part of this boundary, since the Act passed 1846-8-6 for the purpose of admitting Wisconsin into the Union. The description of this part of this boundary which appears in the Act of 1846-8-6, see p. 61, is first presented in Senate Bill No. 9, 1842-12-14, see p. 50. An examination of the two bills will show the modifications made in the latter.

The Menominee river is formed by the junction of the Brule and the Mequacumecum rivers. After receiving the second report of Captain T. J. Cram Congress adopted the Brule river and the south shore of Lake Brule as the boundary. This is the interpretation given by Congress to the words "Thence in a direct line to the nearest head water of the Menominee river" which occur in the act of 1836-6-15.

In Senate Bill No. 9 introduced 1842-12-14, at the next session of Congress after Captain Cram's second report had been received (1842-3-8) these words are used in speaking of the Montreal river, "Thence through the main channel of said river to the head thereof,

as marked upon the survey made by Captain Cram, of the Corps of Topographical Engineers, in eighteen hundred and forty-one; thence from the said head in a direct line to the southernmost shore of the Lake of the Desert." This bill did not pass the House. It was introduced again as No. 6 in the next Congress and did not pass the House. It does not seem to have been introduced in the Congress of 1844-1845, but in the next Congress the Enabling Act for Wisconsin was introduced in the House as No. 105, 1846-1-13. This Act became a law 1846-8-6. This Act contains the words "Thence along [fol. 1103] the southern shore of Lake Brule in a direct line to the center of the channel between Middle and South Islands, in the Lake of the Desert; thence in a direct line to the head waters of the Montreal river, as marked upon the survey made by Captain Cram; thence down the main channel of the Montreal river to the middle of Lake Superior." Here Congress designates the extent of the Montreal river to be used as part of this boundary.

This boundary has been the subject of much discussion. The most important claims with regard to it, so far as known, may be represented by the following propositions.

1. The boundary defined and marked is not the one described and intended by the Act of Congress of 1836-6-15.

2. Mistakes were made in selecting the places and objects on the ground which were to serve as the principal land marks.

3. "The head waters of the Montreal river as marked on the survey made by Captain Cram" is incorrect.

4. The West Branch of the Montreal river is the main stream and not the East Branch which was taken to be.

5. The West Branch was "called" the Montreal river in 1840 and 1841, at the time the surveys by Capt. Cram were made.

Congress appropriated three thousand dollars 1838-6-12 "To ascertain and designate the boundary line between the State of Michigan and the Territory of Wisconsin" "Agreeably to the boundary as established by the" Act of 1836-6-15. This survey was to be made by the Surveyor General of the Ohio, Indiana, Michigan and Wisconsin land districts, under the direction of the President of the United States. Two years afterwards, 1840-7-20, this three thousand dollars was "Reappropriated to be expended under the direction of the Secretary of War for the accomplishment of the same object." Surveys [fol. 1104] were made that season by Capt. Cram and the returns reached Congress 1841-2-3. Congress made a further appropriation of six thousand dollars, 1841-3-3, for continuing the survey. The survey was continued during the season of 1841 by Capt. Cram, and the returns reached Congress 1842-3-8, the same being Capt. Cram's second report. Senate Bill No. 9 was referred to the Committee on Judiciary 1842-12-14, and reported back 1843-1-17. This bill and the report with it are based on the results of Capt. Cram's surveys (copies herewith). Senate Bill No. 6 was referred to the same com-

mittee 1843-12-13 and reported back 1844-1-30 (copy herewith). Neither bill passed the House. Congress appropriated one thousand dollars 1846-8-10 to survey, mark and designate so much of the line between Michigan and Wisconsin as lies between the source of the Brule river and the source of the Montreal river as defined by the Act of 1846-8-6, four days before providing for the admission of Wisconsin into the Union (copies herewith). This resulted in the survey by Wm. A. Burt, D. S. Wisconsin was admitted, finally, 1848-5-29, since which date Congress has taken no further steps to define and mark this boundary. Do these facts dispose of the claims enumerated above, whatever the physical facts on the ground, and the judgments and opinions of individuals may be? The writer does not preesume to attempt a reply, and uses the question solely to make sure this chain of facts is not overlooked. There are numerous other facts which belong in this chain, which may be examined in what precedes.

One other claim should be noticed. It is this—Michigan never assented to this boundary.

Michigan was required to assent to the boundaries described in the Act of 1836-6-15. This assent was given

NOTE BY COMMISSIONER.—Page 80 of this exhibit was missing when it came into my hands.—Margaret M. Hoit, Special Commissioner.

[fol. 1105] junction of Pine river and Balsam river, where I found what is known as "Cram's Monument". I have examined the Balsam river from its junction with the Pine upstream nearly all the way to the railroad,—a mile and a half, or more. I have seen the Pine river from its junction with the Balsam upstream for some distance and also from Pine lake down stream for thirty or forty rods to a dam. These localities can be seen by reference to the map herewith. I have seen the mouth of the Menominee river at different times. I sent my helper, Mr. H. L. Fruend, to examine the lower Menominee. His report to me is included in what follows.

The Montreal river has a rocky, stable channel, not likely to shift. The works of man have made no change in its course at its mouth. The East Branch, now so called, is the larger and the "main channel" of the Montreal. Notwithstanding some 750,000 gallons of water was taken daily from the East Branch to supply the cities of Ironwood, Mich., and Hurley, Wis., I estimated that the discharge of the East Branch at its junction with the West Branch was more than twice the discharge of the West Branch. Neither branch, nor the river below, could be gauged. The East Branch has a wider, deeper and more riverlike channel. It also has flood channels, more or less marked, where the waters in flood time, apparently, cross the land in a bend this branch makes as it turns to join with the West Branch. The flood plane of the East Branch is much the larger, higher and more characteristic, with gravel deposits some three feet above the stage of water at the time of examination, and of considerable extent. The flood plane of the West Branch is a comparatively

small feature. The flood wood lodged in the East Branch at the junction is three times that in the West Branch. I saw little or no flood wood below the junction. Whole trees are in the jam in the [fol. 1106] East Branch, including a hemlock two feet in diameter at the butt. These features mark the East Branch as a stream of much greater power than the West Branch. There is an opening in the forest at the junction of these branches of a character quite familiar to woodsmen that would hardly be missed by an experienced explorer following up the Montreal river as Captain Cram's men did. Once at the junction of the branches it is easy to see which branch is the main stream. Captain Cram's map No. 4 (herewith) shows a reasonably correct sketch of this junction, indicating that his men visited it. Captain Cram says in his second report, see p. 50 of this report, that he surveyed the Montreal river. Both branches of the Montreal river have boulder paved channels, which, apparently, have not shifted. These boulders, which are in great variety up to two or three feet thick, prevent any gaugings being made. The stage of water was so low when I visited these streams that the boulders were not always covered. Below the junction of the branches I found the boulders in the channel running larger. The Montreal river is a good stream for a boundary because its channel is so stable and so well marked by the pavement of boulders.

At Ironwood and Hurley the East Branch has been dammed forming a pond. As time passes and further developments are made, it is possible that other works will be built obliterating, covering or changing the channel.

Proceeding up the East Branch above Ironwood and Hurley the channel runs in alluvial deposits, the boulder paved channel becoming broken, or interrupted, by reaches where the bottom and sides of the channel appear to be soil. There are appearances indicating the channel may have shifted, but these indications may be really flood channels, as I did not walk over this ground. Within a few miles [fol. 1107] the boulders appear in the channel again.

At the junction of the Pine and Balsam rivers is a sort of amphitheater, some 500 or 600 feet broad, between the hills,—and a very suitable place for a prominent landmark or monument. At this place the channels of the streams are in alluvial deposits, but these channels do not appear to have shifted,—see sketch of them at their junction on general map. This junction is on the west half of the northeast quarter of section thirty-three T. 45 N., R. 3 E. Wisconsin.

Pine river is the outlet of Pine lake. This outlet is on the east half of the north-west quarter of section twenty-nine T. 44 N., R. 3 E. Wisconsin and is some five miles south and a mile and a quarter west of the junction of the Pine and Balsam rivers. Pine lake is a beautiful lake of irregular outline, with wooded shores for the most part, and wooded islands. Shores often swampy but not always. This lake is about a mile and three quarters long north and south and from a third to three fourths of a mile in width. The outlet is about a mile and a third from the south end of the lake and flows from a bay in the north-west part of it. Outlet is some fifty feet wide,

but the water is held back by a dam. A rod is a fair breath for the channel of Pine river after it leaves the lake and takes its characteristic form.

The Balsam river is a small stream rising in the swamps some six or seven miles south-westerly from its junction with the Pine. Wherever I saw it I found it following a channel in alluvial deposits, but saw no sign of its shifting. This channel is some twenty feet wide for a quarter of a mile or so above the junction. It was discharging water that might from a shallow creek three feet wide. There were long pools of water. There were some sand deposits some three or four feet above water level, but these may have been caused [fol. 1108] by letting the water out from a pond at an old lumber camp some eighty rods above the junction, for floating out logs, and not by floods, as there were no such evidences of floods found above the lumber camps. Open marsh land at and just above the junction with few trees, now dead, or cut.

So far as size is concerned the Pine river is very similar to the Balsam,—a twin in fact,—except that it was carrying a little more water, and flows through a well defined valley for a half mile or so above the junction, which is not the case with the Balsam.

The junction of the Balsam and Pine rivers is on cutover lands. The timber is cut or dead. I am not now able to say what killed the brush and timber that was left standing,—perhaps it was fire following the cutting. Here is the location of what is known as Cram's Monument, from which a line was run in 1847 by Wm. A. Burt D. S. S. 74° 27′ E. 50 miles 67 chains and 6 links to the center between the Middle and South islands in Lac Vieux Desert. Mr. Burt's notes of this monument follow.

"A cedar post 6 feet long 8 inches square set in the ground 2½ feet and surrounded with stone on the point of land at the junction of two streams called the Balsam and Pine rivers, and head proper of Montreal river as marked upon the survey of Capt. Cram. This post marked in the wood on the South-west side "Winconsin", on the northeast "Michigan", on the N. W. & S. E. "State Boundary."

Bearings to the Above-mentioned Post

W. Pine 24 N. 74° 45′ E. 142}
Hemlock 24 S. 13° 30′ E. 154}Bearings.
W. Pine 26 S. 64° 15′ W. 120}

From thence in a direct line S. 74° 27′ E. to the center of the channel between the Middle and South Islands in the Lake of the Desert. (Lac Vieux Desert)."

[fol. 1109] The remains of this monument were found by me the 30th of August, 1907, as per sketch on general map. Four stones were found on the ground surrounding an opening indicating the post between them to have been about eight inches square. The post above ground is gone. Below ground there seemed to be solid wood when examined by trying to drive down a stake. No digging was done. Nothing was disturbed. A 3 inch by about 7 feet dead cedar

pole was driven into old post below. It is blazed on two sides. On the south-west side is marked "Wisconsin", and on the north-east side "Michigan." The marking was done with a lead pencil.

The Hemlock witness tree (above) was standing, but dead. Its bearing from the post is S. 66 30′ W., not S. 13° 30′ E. as above stated,—an error sometimes met with. This tree is marked in the wood "Wisconsin". Also bears the usual witness mark.

The White Pine 24 N. 74° 45′ E. 142 (above). Stump old and rotting but standing. It bears the usual witness mark.

The White Pine 26 S. 64° 15′ W. 120 (above). Stump old and rotting but standing.

October 28th, 1908, I visited this place again in company with you. I found everything as I had left it the year before.

I took the course S. 74° 27′ E. from the monument as nearly as I could with a pocket compass, crossed Pine river on this line and looked for marks in the timber beyond. Found none. The largest trees were cut long since.

For convenience of reference certain dimensions are collected here.

The breadths of channels given are such as were deemed characteristic, but considerable judgment was necessary in taking them, due to the irregular and uncertain outline of the borders of strips of ground covered with boulders barely covered with water or not entirely covered.

[fol. 1110] Montreal River:

68 feet. Width of channel about 500 feet below the junction of the East and West branches.

East Branch of Montreal river:

40 feet. Width of channel about 400 or 500 feet above its junction with the West Branch.

West Branch of Montreal river:

42 feet. Width of channel in a pool about 500 or 500 feet above its junction with the East Branch.

43 feet. Width of channel just below railroad bridge 349 and about a third of a mile above its junction with the West Branch.

East Branch of Montreal river:

36 feet. Width of channel about 350 or 400 feet below railroad bridge 348 and about three miles above its junction with the West Branch.

46 feet. Width of channel about 150 feet below bridge between Ironwood, Mich., and Hurley, Wis., about seven and a half miles above its junction with the West Branch.

West Branch of Montreal river:

36 feet. Width of channel near Gile between highway bridge and the railroad bridge next above it, about five and a half miles above its junction with the East Branch.

86-87

86-87

MICIHGAN WISCONSIN BOUNDARY.

MONTREAL RIVER

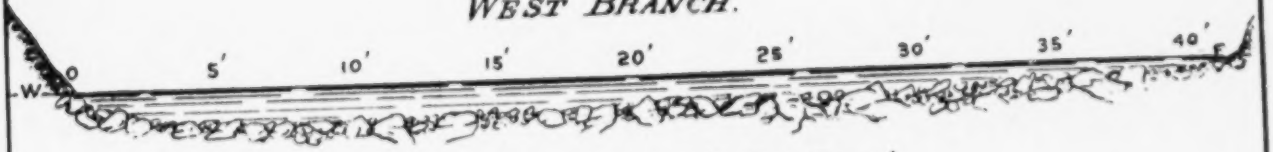
Cross-Sections.

SCALES: Horizontal } 1 Inch = 6 Ft.
Vertical }

EAST BRANCH.

400' or 500' above junction with West Branch.
Current considerable.
Surveyed 1907-8-29.

WEST BRANCH.



500 or 600' above junction with East Branch
Current slight - a pool
Surveyed 1907-8-29.

EAST BRANCH

350 or 400' below D.S.S & A. R.R. Bridge 348
Current moderate
Surveyed 1907-8-28

DEFENDANTS EXHIBIT
NO. 380
mmstrit 1111
Special Commissioner

Balsam River:

15 to 20 feet. Width of channel (not filled) above and not far from its junction with Pine river.

Pine River:

15 to 20 feet. Width of channel (not filled) above and not far from its junction with Balsam river.
15 to 18 feet. Width of channel about 40 rods below Pine Lake.

(Here follows side folio page 1111—cross-sections)

[fol. 1112] The above dimensions are of little value. The streams must be seen to form a correct idea of them. Three cross sections are here presented, showing in correct proportion the channels where they were taken. They cannot be taken as characteristic, for these streams flow through masses of boulders, and over almost bare rocks and ledges, for such a large part of their courses. Their descent is quite rapid. There are falls in the Montreal river below the junction of its branches recorded on the township plats on the Michigan side. For elevations above or below Lake Superior see p. 46 of this report, as given in Captain Cram's second report. If 601 feet be added to these elevations they will be approximately the elevations above mean sea level at New York city. The high land in Ironwood and Hurley is about a thousand feet above Lake Superior.

When I left Ironwood to examine the mouth of the Montreal river I sent my assistant, Mr. H. L. Fruend, to examine the lower Menominee river. This was 1907-8-31. His report to me follows:

Ann Arbor, 1907-9-3.

J. B. Davis:

Having examined the Menominee River in accordance with your instructions, I find,

1st. That there is a well defined and straight channel up to the second bridge crossing between the two cities of Menominee and Marinette; and further, that in said channel very little dredging has been done, and none to change the natural course of the river at this point. There are several auxiliary channels used by the lumbermen in driving logs, but these, so far as I was able to ascertain, are natural channels and do not interfere with the main channel.

[fol. 1113] 2nd. There are three dams at the present time across the Menominee river and further up stream. The distance between dams in each case is about three quarters of a mile.

Dam #1 erected by lumbermen and maintained by the M. & M. Paper Co. to supply power to their Menominee plant backs the water up about 10 or 12 feet and diverts part of it to the Michigan side of the river.

Dam #2, three quarters of a mile up stream, is a lumbermen's dam. The opening for this dam is in the main channel, as far as

I was able to ascertain. This dam backs up the water about four feet.

Dam #3 is the largest of all and holds up the water to a depth of 20 feet. On the Marinette shore the M. & M. Paper Co. have dredged a mill race about 30 ft. wide and 2,000 feet long. This is used to supply power for their Marinette plant. Further, I find that this said dam and mill race do interfere with the proper and natural course of the waters to such an extent that the main channel could not be ascertained by me.

There are low, flat lands on both shores of the river, and numerous low, flat islands abound. There seem to be two defined channels because of these islands. Moreover, the river bed above the second bridge is filled with sunken and boom logs, but these do not interfere in any sense with the course of the stream.

Respectfully submitted 1907-9-3.

Henry L. Fruend.

These examinations were made for the purpose of ascertaining whether or not changes had been made by private parties in these streams, or anything had been done to obscure, or obliterate, the original location of their channels. Because the original channels [fol. 1114] of the Menominee and Montreal rivers have begun to be obscured by dams, ponds and structures, I believe the channels of these streams should be accurately surveyed and their locations connected to permanent monuments situated on the land to prevent their original locations from becoming lost or obscured. These surveys should be mapped and a complete record of them carefully preserved so that their positions could be laid down on the ground at any future time by reference to the permanent monuments, regardless of what had been done to obscure or obliterate them. I have been unable to find any of the field notes or original large scale maps of Captain Cram's surveys, altho my search has been extensive and thorough. The connections with the section and township lines are entirely inadequate for a work of this nature. Such surveys and records as are now required have never been made.

The surveys, maps and records here recommended should include not only the channels of the rivers named, but also all of the following named items.

The outlet of Montreal River and adjoining waters of Lake Superior to fix the location of the mouth of this stream.

The Montreal River to Cram's Monument, with portions of Balsam and Pine rivers near this monument.

Lac Vieux Desert and islands to fix the location of the middle of the channel between Middle and South islands in said lake.

Lake Brule.

Brule River and islands.

Menominee River and islands.

The outlet of Menominee river and adjoining waters of the Green Bay of Lake Michigan to fix the location of the mouth of this stream, and its channel into Green Bay.

MAPS

TOO

LARGE

FOR

FILMING

The "Most usual" ship channel from Green Bay into Lake Michigan.

[fol. 1115] Cram's Monument should be replaced by a permanent structure of substantial character.

Burt's lines from Cram's Monument to Brule river should be restored and his monuments renewed by permanent marks of durable construction. Burt set one hundred and fifty-nine monuments on these lines.

Inquiry has been addressed to me in years past involving questions of jurisdiction which these surveys would at once settle.

While the expense of such surveys and records would be large, because of the quality of the work and the number of permanent monuments required, it would really be very small in comparison with the sums expended in a very few cases of litigation involving questions of jurisdiction. It is presumed the expense should be borne equally by Michigan and Wisconsin.

J. B. Davis, 1909-4-1.

(Here follow maps marked side folio pages 1116, 1117, and 1118)

[fol. 1119] IN SUPREME COURT OF UNITED STATES

[Title omitted]

STIPULATION AND STATEMENT RE PLAINTIFF'S EXHIBITS

In this case it is hereby stipulated and agreed by and between the parties hereto, by their respective Attorneys General and Special Counsel, that, in the taking of proofs before the Commissioner the plaintiff's proposed exhibits, as below mentioned, shall be received in evidence, and shall be, by the Commissioner, returned with her report of the proofs herein, to said Court as evidence and part of the record herein, under the following provisions and conditions.

First. Each such exhibit purporting to be an original is admitted to be the original which by such offer it is claimed to be, unless otherwise specified in connection with the offering thereof.

Second. Each such exhibit, purporting or claimed to be a copy of an original, whether of a public record, map, historical article, or otherwise, is admitted to be a true copy of the original as claimed by such offering and recited below, and such copy shall be by said Commissioner received in evidence, and shall be by her returned, with her report herein, with other proofs, to the Court, and may be by the Court received with all the force and effect that could be given to the originals thereof were such originals duly proven so [fol. 1120] as to entitle them to be so admitted, and, in each instance, preliminary proof by way of foundation for the introduction of such exhibits is hereby waived, provided that each such exhibit, so offered, shall be received by the Commissioner, subject to such

objection or restriction as is below recited in connection with the offering thereof.

Third. Each exhibit, so to be offered under the provisions hereof, shall be received subject to the right of the opposite party to object thereto at the hearing hereof before the Commissioner on the ground that the same is immaterial, but all other objections are hereby waived, except such as are specifically noted below in connection with the offering of the exhibit objected to, and as to all exhibits referred to herein, but which have not been submitted to defendant, special stipulations shall be submitted with such exhibits covering the conditions under which such exhibits shall be received in evidence.

Fourth. The admission above recited, as to such exhibits offered as copies of originals, is limited to the extent that such admission shall only be construed as prima facia evidence that they are true copies, and in case of error therein, proofs may be offered by either party to correct such error, and the copy, as established by correcting, shall then remain in the place and stead of the copy corrected.

Fifth. This stipulation shall be filed with the Commissioner herein, and shall be by her returned to the Court with her return of the proofs herein, and shall be considered as evidence of the admission by the parties hereto of the facts and waivers recited herein to the extent of such recitals, and subject to the limitations and qualifications referring to specific exhibits.

[fol. 1121] Sixth. That as to the early records and maps in the Library of Congress of which copies are offered herein, no record can be found showing the dates of filing other than the dates appearing thereof.

The said exhibits so proposed being offered by said plaintiff are numbered and described as follows, respectively, and such special reservations and exceptions as are made to any thereof are recited in connection with the record thereof. As to each such proposed exhibit the defendant admits receipt of two copies, except where otherwise specified.

Exhibit 1. Photostat copy of the John Mitchell map of 1855—Parts 1 and 2, from a map in the Library of Congress.

Exhibit 2. Copy of proceedings of United States Senate, January 23, 1834, shown in Congressional Globe, 23rd Congress, 1st Session, Page 122, regarding introduction of an enabling act for the admission of Michigan.

Exhibit 3. Copy of proceedings of House of Representatives, in Congressional Globe, Vol. 2, 1st Session, 24th Congress, April 20, 1836, Page 317, in reference to bill to admit Michigan into the Union.

Exhibit 4. Part of Journal of Proceedings of the Convention to form a constitution for the State of Michigan, May 11, 1835.

As to this, it is stipulated, in lieu of presenting the Journal, that

the Constitution formulated at that Convention, and later adopted, [fol. 1122] contained no detailed description of the Michigan boundary, but discussion in the Convention on the question of the boundary was limited to the southern boundary of Michigan, and the contemplated boundary was the territorial boundary described by the Act of 1805 creating the Territory of Michigan.

Exhibit 5. Farmer's map of the Territories of Michigan and Wisconsin, 1830. This is a photostat copy from a map in the Library of Congress.

Exhibit 6. Original and photostat copy of Burr Map made in 1836.

The Original of this map was found in the possession of Robert Sherwood of Watervleit, Michigan, and was received by him in manner hereinafter stipulated. Plaintiff reserves the right to withdraw the original for return to its owner.

Exhibit 7. Photostat copy of map of David H. Burr, Draftsman of the House of Representatives, dated 1836—in two parts.

The original from which this copy was made is in the Library of Congress. This is a map of which Exhibit "A" attached to bill of complaint is a copy.

Exhibit 8. Copy of "A New Map of Michigan, with its Canals, Roads and distances, by H. S. Tanner" from a map in the Library of Congress, entered in the year 1836.

[fol. 1123] Exhibit 9. Photostat copy of a map of the Northern Part of Ohio, Indiana, and Illinois, with Michigan, etc., by David H. Burr, Draftsman of the House of Representatives 1836.

This map is offered as a copy of the original which is in the Library of Congress.

Exhibit 10. Extracts from a speech by James Buchanan in the United States Senate, April 1, 1836—Vol 2, Congressional Globe, 24th Congress, 1st Session, Appendix, Page 398.

To this defendant preserves the objection that it is incompetent because not a matter of evidence but a legal conclusion.

Exhibit 11. Copy of the Act of Assent of Michigan to the conditions of admission, in convention at Ann Arbor, December 15, 1836.

Michigan Compiled Laws 1915, page 113.

Exhibit 12. Copy of map entitled "A New and Authentic Map of the State of Michigan and Territory of Wisconsin," by Thomas R. Tanner, Philadelphia, bearing date 1839, from a map in the Library of Congress.

Exhibit 13. Copy of two sections of a map entitled "A Map of North America, constructed according to the latest information, by [fol. 1124] H. S. Tanner, 1839, from Tanner's American Atlas, in the Library of Congress, Section 1 covering the title and Section 2 the N. E. sheet of the map.

Exhibit 14. Copy of letter of instructions by J. J. Abert, Col. T. E., to Captain T. Cram, July 30, 1840.

Exhibit 15. Photostat copy of Senate Document No. 151, 26th Congress, 2nd Session, being Cram's first report.

Exhibit 16. Photostat copy of an original letter, now in the Burton Historical Collection of the Detroit Public Library, written by Douglas Houghton to Governor William Woodbridge, July 22, 1840, from La Pointe, Lake Superior.

Exhibit 17. Typewritten copy of message of Governor Woodbridge to the Legislature of Michigan, January 12, 1841, found in Michigan Senate Journal of January 12, 1841.

Exhibit 18. Copy of proceedings of Michigan Senate, Friday, January 22, and Saturday, January 23rd, 1841, Michigan Senate Journal of that date, showing resolution in accordance with recommendation of Governor Woodbridge.

Exhibit 19. Copy of proceedings of United States Senate, February 15, 1841, as shown by Senate Journal, 26th Congress, 2nd Session, Page 179, showing presentations of resolutions above referred to.

[fol. 1125] Exhibit 20. Copy of United States Senate Document No. 186, 26th Congress, 2nd Session, that being joint resolution of the Michigan Legislature, February 15, 1841.

Exhibit 21. Copy of Section 3 of Appropriation Act of Congress, March 3, 1841, making appropriation for survey of Michigan boundary.

Exhibit 22. Copy of United States Senate Journal, January 24, 1842, 27th Congress, 2nd Session, Page 117, being a resolution calling upon the Secretary of War for information regarding the survey and map.

Exhibit 23. Photostat copy of United States Senate Document 170, 27th Congress, 2nd Session, embodying Captain Cram's second report.

Exhibit 24. Copy of Proceedings of United States Senate, Senate Journal, 27th Congress, 2nd Session, March 8, 1842, Page 207--showing the report of the Secretary of War on the survey of the boundary between Michigan and Wisconsin, read before the Senate and referred to the Committee on Printing.

Exhibit 25. Copy of record of proceedings as shown by United States Senate Journal, 27th Congress, 2nd Session, Page 260, March 31, 1842, ordering the printing of the report and map.

[fol. 1126] Exhibit 26. Copy of Senate Document, 27th Congress, 2nd Session, Vol. 3, No. 147, being resolution adopted by the assembly of Wisconsin Territory in relation to the boundary, March 19, 1842.

Exhibit 27. Copy of United States Senate Journal, 27th Congress, 3rd Session, Page 29, showing a record of the introduction of Senate Bill No. 9 to amend the description of the Michigan boundary.

Exhibit 28. Copy of Senate Bill No. 9 referred to in the last exhibit.

Exhibit 29. Copy of United States Senate Document No. 80, 27th Congress, 3rd Session, January 17, 1843, being report of Judiciary Committee on Senate Bill No. 9.

Exhibit 30. Copy of United States Senate Journal, 27th Congress, 3d Session, February 28, 1843, Page 240, showing action by the Senate on Senate Bill No. 9.

Exhibit 31. Copy of record of proceedings in United States Senate, December 13, 1843, Senate Journal, 28th Congress, 1st Session, Page 35, showing Senate Bill No. 9 above referred to was re-
[fol. 1127] introduced as Senate Bill No. 6.

Exhibit 32. Copy of report of Judiciary Committee on Senate Bill No. 6, as shown by Senate Document No. 70, 28th Congress, 1st Session, Vol. 2, January 30, 1844.

Exhibit 33. Copy of Proceedings of United States Senate, March 28, 1844, as shown by its Journal, 28th Congress, 1st Session, Page 199, showing action on Senate Bill No. 6.

Exhibit 34. Copy of Proceedings in the House of Representatives of the United States, as shown by its Journal, 29th Congress, 1st Session, June 9, 1846, showing consideration of the Wisconsin Enabling Act.

Exhibit 35. Copy of Instructions by the U. S. General Land Office to Lucius Lyon, Surveyor General, for the survey of a portion of the boundary line as designated by the Wisconsin Enabling Act.

Exhibit 36. Copy of Instructions from Surveyor General to William A. Burt, May 1st, 1847.

Exhibit 37. Copy of a Section of an Ordinance of the Constitutional Convention of Wisconsin of 1848, Consenting to and Accepting the Boundaries Described in its Enabling Act.

[fol. 1128] Exhibit 38. Copy of Proceedings in the Michigan Constitutional Convention of 1850, pages 887 and 888, showing discussion of the boundary.

Exhibit 39. Copy of letter from C. Billinghurst to L. C. Draper, July 10, 1859—Vol. 4, Wisconsin Historical Collections, Page 351.

Exhibit 40. Copy of letter from Henry R. Schoolcraft, to Lucius Lyon, dated Washington, February 29, 1836.

Original is found with papers of Lucius Lyon in the possession of Mrs. James H. Campbell, of Grand Rapids, Michigan, and is presented in support of the correctness of the copy, but plaintiff reserves the right to withdraw the original because it is the private property of Mrs. Campbell.

Exhibit 41. Photostat copy of a letter dated Detroit, August 5th, 1836, written by Henry R. Schoolcraft, then U. S. Indian Agent at Sault Ste. Marie to Hon. John Norwell, published in Niles Weekly Register, a newspaper then published at Baltimore, Maryland. This copy is from a bound volume of the issues of said paper in the Library of Congress.

Exhibit 42. Photostat copy from Schoolcraft's Memoirs, Chapter 58, under date of October 27, 1836, page 547.

The original is in the Burton Historical Collection, of the Detroit Public Library.

[fol. 1129] Exhibit 43. Photostat copy of Mitchell's Map of Wisconsin, 1846,—Original in the Library of Congress.

Exhibit 44. Photostat copy of a Sketch of the Public Surveys of Wisconsin from the original in the Library of Congress,—claimed to have been made about 1840.

Exhibit 45. Photostat copy of a Sketch of the Survey of Wisconsin in 1841—as found in the Library of Congress.

Exhibit 46. Photostat copy of a Map of Michigan by Charles De Silver, made in 1856, from the original in the Burton Historical Collection of the Detroit Public Library.

Exhibit 47. Photostat copy of Special Report of the State Geologist, Douglas Houghton, of Michigan, dated December 16, 1840, to Governor William Woodbridge.

Exhibit 48. Photostat copy of Annual Report of State Geologist, Douglas Houghton, dated February 1, 1841.

Exhibit 49. Copy of an original letter written by John Farmer to Lucius Lyon, January 25, 1834.

[fol. 1130] The original is presented to support the correctness of the copy but plaintiff reserves the right to withdraw the original to return to its owner, Mrs. James H. Campbell.

Exhibit 50. Copy of a letter from Lucius Lyon to Col. D. Goodwin, dated Detroit, February 4, 1836, from record in Vol. 27, Michigan Pioneer and Historical Collections, Page 475.

Exhibit 51. Copy of letter from Lucius Lyon to Amos Kendall, Postmaster General, February 15, 1836, from Vol. 27, Michigan Pioneer and Historical Collections, page 477, being No. 60 of that collection.

Exhibit 52. Copy of letter from Lucius Lyon to W. L. Newberry, February 21, 1836, being No. 63 in Vol. 27, Michigan Pioneer and Historical Collections, Page 478.

Exhibit 53. Copy of letter from Lucius Lyon to Edward Munday, Lieutenant Governor of Michigan, February 26, 1836, found in Vol. 27, Michigan Pioneer and Historical Collections, Page 482, being No. 73.

Exhibit 54. Copy of a letter from Lucius Lyon to John S. Barry, March 20, 1836, from Vol. 27, Michigan Pioneer and Historical Collections, Page 486, No. 85.

[fol. 1131] Exhibit 55. Copy of a letter from Lucius Lyon to Thomas C. Sheldon of Kalamazoo, April 3, 1836, from Vol. 27, Michigan Pioneer and Historical Collection, Page 494, No. 102.

Exhibit 56. Copy of Extracts from Journal of Michigan Constitutional Convention of 1867.

Exhibit 57. Copy of portions of a History of Brown County, by Deborah B. Martin, Published in 1913.

Exhibit 58. Extracts from "The Western Tourist and Emigrants Guide," by J. H. Colton, 1840, in Detroit Public Library.

Exhibit 59. Photostat copy of map entitled "Guide through Ohio, Michigan, Indiana, Illinois, Missouri, Wisconsin and Iowa," by J. Calvin Smith, New York, found in Western Tourist and Emigrants Guide, 1840, in Detroit Public Library.

Exhibit 60. Copy of Extracts from a book entitled, "Western Portraiture and Emigrants Guide," by Daniel S. Curtiss, Published by J. H. Colton, N. Y., 1852.

Exhibit 61. Copy of Extracts from a Biography of George Henry Cannon, from Vol. 30, Michigan Pioneer and Historical Collections, Page 244.

[fol. 1132] Exhibit 62. Copy of Extracts from an article by George H. Cannon on "Our Western Boundary," 1905. Published in Vol. 30, Michigan Pioneer and Historical Collections, page 244.

Defendant preserves the objection that it is incompetent because it relates to matters of which other proofs are available, and, second, conclusions from documents and records which are themselves available. It is, however, agreed that if the original would be admissible the copy may be admitted with like effect.

Exhibit 63. Addition to Exhibit 62, and defendant preserves the same objection as to Exhibit 62.

Exhibit 64. Copy of Extracts from an article by George H. Cannon, entitled "Michigan's Land Boundaries," published in Vol. 38, Michigan Pioneer and Historical Collections, Page 163, written in 1908.

Defendant preserves the right to object to the admissibility of this article because of its having been written after the dispute arose over the location of the boundary, and because it relates to matters of which other proofs are available, and, third, conclusions from documents and records which are themselves available. It is, however, agreed that if the original would be admissible the copy may be admitted with like effect.

Exhibit 65. Copy of a memorandum signed by George H. Cannon, dated "Washington-Michigan, September 1, 1906," found and being among the papers of Peter White in the Burton Historical Collections of the Detroit Public Library.

[fol 1133] Defendant preserves the objections that it is incompetent because it relates to matters of which other proofs are available, and, second, conclusion from documents and records which are themselves available. It is, however, agreed that if the original would be admissible the copy may be admitted with like effect.

Exhibit 66. Copy of a letter from George H. Cannon to Hon. Peter White, dated November 26, 1906, the original being among the Peter White papers in the Burton Historical Collection of the Detroit Public Library.

Defendant preserves the objection that is is incompetent because it relates to matters of which other proofs are available, and, second, conclusions from documents and records which are themselves available. It is, however, agreed that if the original would be admissible the copy may be admitted with like effect.

Exhibit 67. Copy of a letter from George H. Cannon to Hon. Peter White, dated January 2, 1907, the original being in the Burton Historical Collection of the Detroit Public Library.

Defendant preserves the objection that it is incompetent becau it relates to matters of which other proofs are available, and, secon conclusions from documents and records which are themselves avai able. It is, however, agreed that if the original would be admissib the copy may be admitted with like effect.

[fol. 1134] Exhibit 68. Copy of a letter from Reuben Go Thwaites, Secretary and Supt. of the State Historical Society Wisconsin, to Hon. Peter White, March 4, 1907, the original bei with the Peter White papers in the Burton Historical Collection the Detroit Public Library.

Defendant preserves the objection that it is incompetent becau it relates to matters of which other proofs are available, and, se ond, conclusions from documents and records which are the selves available. It is, however, agreed that if the original wou be admissible the copy may be admitted with like effect.

Exhibit 69. Copy of a letter from George H. Cannon to Ho Peter White, dated "Washington-Mich. March 5, 1907" the orig nal being with the Peter White papers in the Burton Historic Collection of the Detroit Public Library.

Defendant preserves the objection that it is incompetent becau it relates to matters of which other proofs are available, and, secon conclusions from documents and records which are themselves avai able. It is, however, agreed that if the original would be admissib the copy may be admitted with like effect.

Exhibit 70. Copy of a letter from George H. Cannon to Ho Peter White, dated March 11, 1907, from the original with the Pet White papers in the Burton Historical Collection of the Detro Public Library.

[fol. 1135] Defendant preserves the objection that it is incompeten because it relates to matters of which other proofs are available, an second, conclusions from documents and records which are the selves available. It is, however, agreed that if the original would admissible the copy may be admitted with like effect.

Exhibit 71. Copy of letter from Fred M. Warner, Governor Michigan, to Hon. Peter White, March 21, 1907, enclosing co of joint resolutions, etc., (copy of resolutions enclosed), from t original among the Peter White papers in the Burton Historic Collection of the Detroit Public Library.

Defendant preserves the objection that it is incompetent becau it relates to matters of which other proofs are available, and, secon conclusions from documents and records which are themselves avai able. It is, however, agreed that if the original would be admissib the copy may be admitted with like effect.

Exhibit 72. Copy of a carbon copy of a letter from Hon. Pet White to Hon. James O. Davidson, Governor of Wisconsin, May 2

1907, the said carbon copy being with the papers of Peter White in the Burton Historical Collection of the Detroit Public Library.

As to this defendant waives demand for production of original.

[fol. 1136] Exhibit 73. Copy of letter from John E. Bird, Attorney General of Michigan, to Hon. Peter White, dated September 4, 1907, from the original with the Peter White papers in the Burton Historical Collection of the Detroit Public Library.

Exhibit 74. Photostat copy of the record of the War Department of proceedings had therein in March 1904, upon request of Hon. Russell A. Alger for facts inquired about by George H. Cannon.

One copy of the instructions therein referred to is Exhibit 14 above, and the other of the copies is part of this Exhibit.

Exhibit 75. Extracts from a book entitled "Stories of the Badger State," by Reuben Gold Thwaites, Wisconsin Historian, Page 167.

Exhibit 76. Extracts from an article entitled "The Boundary of Wisconsin," by Reuben Gold Thwaites, Vol. 2, Wisconsin Historical Collections, beginning on page 451.

Exhibit 77. Extracts from an article entitled "Child's Recollections," Vol. 4, Wisconsin Historical Collections, page 193.

[fol. 1137] Exhibit 78. Original letter from E. R. Hall of Batavia, N. Y., to Mr. John E. Bird, Attorney General of Michigan, dated May 11, 1908. Copy attached for convenience of Court.

Exhibit 79. Extracts from an article on the "Boundaries of Michigan," by Claude S. Larzelier, Vol. 30, Michigan Pioneer and Historical Collections, page 24.

Exhibit 80. Extracts from an article on "The Western Boundary" of Michigan, by Anna May Soule, Vol. 27, Michigan Pioneer and Historical Collections, Page 378.

Exhibit 81. That part of pages 120 to 122 of United States Geological Survey Bulletin No. 226, entitled, "Boundaries of the United States and of the Several States and Territories, with an Outline of the History of all Important Changes," published at Washington, 1904, by Henry Cannet, Ed. 3, wherein it quotes the boundaries of Michigan as described in the act of June 15, 1836.

And it is hereby agreed that, instead of producing said bulletin, it is admitted that, following the description of the boundary as last above referred to, it is said, "The above boundary remains unchanged."

Exhibit 82. Extracts from records of Michigan Constitutional Convention of 1907.

[fol. 1138] Exhibit 83. Photostat copy of portions of a book entitled, "Personal Memoirs of Henry R. Schoolcraft," covering pages 225 and 226.

Exhibit 84. Photostat copy of an improved map of the surveyed part of the Territory of Michigan, by John Farmer, 1830.

Exhibit 85. Photostat copy of the Travelers Map of Michigan, by H. S. Tanner, 1832. Original in the Library of Congress.

Exhibit 86. Photostat copy of Farmer's map of the "Territories of Michigan and Wisconsin," 1836. Original in the Library of Congress.

Exhibit 87. Photostat copy of a map of the surveyed part of Michigan by John Farmer, 1840. Original in the Library of Congress.

Exhibit 88. Copy of parts of a letter written by A. C. Ellis, dated Navarrino, December 8, 1833, to Hon. Lucius Lyon, Washington.

The original of this letter is exhibited to establish the accuracy of the copy, but plaintiff reserves the right to withdraw same for the purpose of returning it to its owner.

[fol. 1139] Exhibit 89. Copy of portions of a letter written by A. C. Ellis, dated Navarrino, B. C. M. T., December 20, 1833, to Hon. Lucius Lyon, Washington.

The original is presented for the purpose of establishing the accuracy of the copy but plaintiff reserves the right to withdraw the original.

Exhibit 90. Copy of a letter written by J. D. Doty to Hon. Lucius Lyon, H. R., dated Navarrino, June 22, 1834.

The original is presented for the purpose of showing the correctness of the copy but plaintiff reserves the right to withdraw the original.

Exhibit 91. Copy of a letter from Lucius Lyon to Hon. J. D. Doty, Green Bay, February 10, 1836, found in Vol. 27 Michigan Pioneer and Historical Collections, page 477, No. 61.

Exhibit 92. Copy of a letter from A. C. Ellis to Hon. Lucius Lyon, Washington, D. C., dated Green Bay, February 15, 1836.

The original is presented for the purpose of showing the correctness of the copy but plaintiff reserves the right to withdraw the original.

Exhibit 93. Photostat copy of pages 192 and 193 of Douglas Houghton's Journal in August, 1839, from original in Michigan University Library.

[fol. 1140] Exhibit 94. Photostat copy of U. S. Senate Document 256, 27th Congress, 2nd Session, containing report of the beginning of the Hydrographic Survey of Michigan in 1841.

Exhibit 95. Extracts from a book entitled, "Travels Through the Interior Part of North America in the Years 1766, 1767 and 1768 by J. Carver," London, 1781.

Exhibit 96. Photostat copy of a map in the book quoted from in Exhibit 95, "Carver's Travels," found opposite page 17 in said book.

Exhibit 97. Photostat copy of a sketch of "Survey of the Southern Entrance of Green Bay, 1842." This is from the original sketch in the U. S. Lake Survey Office, Detroit.

Exhibit 98. Photostat copy of House Document No. 170, 29th Congress, 1st Session—Report of Secretary of War, March 25, 1846 furnishing "a copy of the report of survey of Green Bay."

Exhibit 99. "Chart of Green Bay," 1846. Survey of 1845 furnished as a part of the report shown by last exhibit, Part 1 and Part 2.

[fol. 1141] Exhibit 100. Photostat copy of a "Sketch of the Survey of the South End of Green Bay and Islands at the Entrance Thereof in 1864," from Government Charts of that date in the U. S. Lake Survey Office, Detroit.

Exhibit 101. Photostat copy of Government Chart in U. S. Lake Survey Office, Detroit, showing "A Survey of the West Coast of Green Bay in 1865."

Exhibit 102. Photostat copy of "Chart of Survey of the South End of Green Bay and the Islands at the Entrance Thereof," as per the survey of 1864—revision of 1905, from original in U. S. Lake Survey Office, Detroit.

Exhibit 103. Copy of Letter written by Alexander I. Irwin, to Hon. Lucius Lyon, Delegate in Congress, dated at Green Bay, December 12, 1833.

The original of this letter is presented to establish the correctness of the copy but plaintiff reserves the right to withdraw the original.

Exhibit 104. Extracts from Vol. 3, Geology of Wisconsin, pages 86 and 87.

Exhibit 105. Copy of portions of U. S. Senate Executive Document 57, April 23, 1848, the same being a report by J. G. Norwall, Assistant Geologist, to David Dale Owen, M. D., Principal Geologist [fol. 1142] for the exploration of Wisconsin and Iowa, describing features of the Montreal river and trail.

Exhibit 106. Copy of acts showing statutory authority of Michigan's Boundary Commission and the Attorney General, regarding action to establish boundary.

Exhibit 107. Copy of portions of book entitled, "Sketches of a Tour of the Lakes, of the Character and Customs of the Chippeway Indians, and of Incidents Connected with the Treaty of Fon du Lac, 1827," by Thomas L. McKenney.

Exhibit 108. Certain pages of the 2nd report of the Railroad Commission of Wisconsin, on Water Powers, 1914-1923, published by the State of Wisconsin in 1924.

Exhibit 109. Photostat copy of portions of record of Lighthouses, in the U. S. Lake Survey Office, Detroit, showing lights, location thereof, etc., being pages 124, 125, 128, 129, 130, 131.

Exhibit 110. Blueprint copy of map of the survey of the Menominee River, as made by Captain Cram in 1842, and referred to in his report, Document 170 above mentioned.

[fol. 1143] Exhibit 111. Blueprint copy of map of part of Menominee and of Wesecota (Brule) Rivers, drawn by Plaintiff's Engineers, illustrating plaintiff's claims.

Exhibit 112. Blueprint copy of a map of Cram's survey of the Montreal River made in 1842, as referred to in his report in Document 170 above mentioned.

Exhibit 113. Blueprint copy of map made by Engineers for Michigan-Wisconsin Boundary Commission, illustrating claims of respective parties in the Montreal River Section and in the Green Bay Section.

Exhibit 114. Government Chart of the entrance to Green Bay, published in 1922.

Exhibit 115. Government Chart (coast chart No. 2) of the West shore of Lake Michigan, and South End of Green Bay, showing Strawberry Channel, published in 1918.

Exhibit 116. Government Chart No. 1, North End of Green Bay, published in 1922.

Exhibit 117. Pages from folder of Goodrich Steamship Lines, 1924, showing route of travel in "Beautiful Green Bay."

[fol. 1144] Exhibit 118. Extracts from "Sailing Directions for Lake Michigan, Green Bay and Strait of Mackinac," the same being published by the Department of the Navy, Hydrographic Office, Publication No. 108 b, 1906.

Exhibit 119. Extracts from "Scott's New Coast Pilot, 1886," showing sailing directions from Chicago to and into Green Bay, via Death's Door. The said book found in the Chicago Public Library.

Exhibit 120. Photostat copy of a letter dated February 23, 1872, written by Willis Drummond, Commissioner, to Major George H. Elliott, U. S. A., Engineering Section, Lighthouse Board, Treasury Department, Washington, D. C., showing the reservation for Pottowatomi Light located on Rock Island to have been reserved June 8, 1840, and giving the description of the land.

Exhibit 121. Photostat copy from original, in the Milwaukee office of the Lighthouse Service of the Department of Commerce, of a map that was enclosed in a letter of June 9, 1840, showing Pottowatomie Island divided into sections and quarter-sections and labeled as "Now called Washington Island."

Exhibit 122. Extracts from a book entitled, "The Modern Lighthouse Service," by Arnold Burgess Johnston, Chief Clerk, United States Lighthouse Board, Government Printing Office, Washington, [fol. 1145] 1890, the original of this being in the office of the Lighthouse Service, of the Department of Commerce, Milwaukee, Wisconsin.

Exhibit 123. Extracts from a book entitled, "Discovery of a Vast Country in America," by Father Louis Hennepin, 1698. Translated by Reuben Gold Thwaites. These extracts are from an original in the Chicago Public Library.

Exhibit 124. Extracts from a "History of the Great Lakes," published in 1899, by J. H. Bears & Co., Chicago, the original being in Chicago Public Library, also in the Public Library at Sault Ste Marie.

Exhibit 125. Excerpts from a dictionary of the Algonquin language, page 117, in Catholic Home Library, Sault Ste Marie.

Exhibit 126. Photographic views of old lighthouse ruins on Plum Island, as follows:

A. path showing stone steps leading to the old lighthouse.

B. shows tree inside the ruins of the residence at the old lighthouse.

C. shows walls in ruins of the residence at the old lighthouse.

D. shows large birch tree growing on the ruins of the old lighthouse.

[fol. 1146] Exhibit 127. Photographic view from Plum Island across Death's Door showing mainland of the upper end of Door County Peninsula.

Exhibit 128. Extracts from Vol. 1, "History of Door County, Wisconsin," by Hajlmar R. Holland, M. A., 1917, in Wisconsin State Library.

Exhibit 129. Map of Washington, Rock and Detroit Islands, from "History of Door County," by Hjalmar R. Holland.

Exhibit 130. Extracts from "Our Inland Seas", as to situation following the loss of the "Griffin."

Exhibit 131. Extracts from "Wau Bun—the Early Days in the Northwest."

Exhibit 132. Extracts from "Wisconsin in Three Centuries," by Reuben Gold Thwaites and others.

Exhibit 133. Extracts from "The Character and influence of the Indian Trade in Wisconsin." by Frederick J. Turner, Johns Hopkins University—Studies in Historical and Political Science—9th Series.

[fol. 1147] Exhibit 134. Extracts from "Centennial History of Menominee County", by (Judge) Eleazer S. Ingalls.

Exhibit 135. Extracts from a "History of the Northern Peninsula", Vol. 1, by Alvah L. Sawyer.

Exhibit 136. Extracts from the laws of Michigan and Wisconsin showing regulations as to size of mesh of various nets permitted to be used in the waters of Green Bay along the line of the Inter-State boundary.

Exhibit 137. Chart of Government Survey for Wisconsin of Township 44 N. Range No. 1 East.

Exhibit 138. Chart of Government Survey for Wisconisn of Township 44 North, Range No. 2 East.

Exhibit 140. Letter from A. J. Dallas, Acting Secretary of War to the President of the United States, June 29, 1815—found in Vol. XIX of the Wisconsin Historical Collections, page 380.

[fol. 1148] Exhibit 141. Letter from J. M(ason), written from the Indian Office, Washington, to Mathew Irwin, U. S. F. for Green Bay—found in Vol. XIX of the Wisconsin Historical Collections, page 391.

Exhibit 142. Letter dated June 5, 1816, to the Commanding Officer at Michillimackinac, and to Wm. H. Puthuff, Indian Agent at the same Place, from George Graham, Chief Clerk, Department of War—found in Vol. XIX of the Wisconsin Historical Collections, page 414.

Exhibit 143. Letter from W. H. Puthuff, Indian Agent at Mackinaw to Governor Cass, Dated at Michillimackinac, June 6, 1816,—found in Vol. XIX of the Wisconsin Historical Collections, page 415.

Exhibit 144. Letter from Pierre Rocheblave to Mr. Louis Grignon—Dated at Mackinac, June 20, 1816—found in Vol. XIX of the Wisconsin Historical Collections, page 416.

Exhibit 145. Letter from Wm. Henry Puthuff, Indian Agent at Michillimackinac to Governor Cass, of Michigan Territory, dated the 20th of June, 1816—found in Vol. XIX of the Wisconsin Historical Collections, page 417.

[fol. 1149] Exhibit 146. Letter from Wm. Hy. Puthuff, Indian Agent, Mackinaw, to Governor Cass of Michigan, dated the 4th of August, 1816—found in Vol. XIX of the Wisconsin Historical Collections, page 430.

Exhibit 147. Extracts from a letter dated Michillimackinac, the 18th of August, 1816, and written by Wm. Hy. Puthuff, Indian

Agent, to his Excellency Governor Cass, found in Vol. XIX of the Wisconsin Historical Collections, page 432.

Exhibit 148. Extracts from a letter of John O'Fallon, Capt. Rifle Regiment, Addressed: Genl. Duncan McArthur Chillicothe, Ohio—Dated "Mouth of Fox River, Green Bay, 24th September, 1816"—found in Vol. XIX of the Wisconsin Historical Collections, page 437.

Exhibit 149. Extracts from "Reminiscences of Life in Territorial Wisconsin," by Elizabeth Theresa Baird—Vol. XV of the Wisconsin Historical Collections, page 205.

Exhibit 150. Extracts from "Report on the Quality and Condition of Wisconsin Territory, 1831," by Samuel Stambough. Found in Vol. XV of the Wisconsin Historical Collections, page 399.

[fol. 1150] Exhibit 151. Extracts from a manuscript published by the Menominee Herald, entitled "Menominee River. Its Past and Present," by Lewis S. Patrick, 1871.

Exhibit 153. Extracts from "Narrative of Alexis Clermont," written June 23, 1888, found in Vol. XV of the Wisconsin Historical Collections, page 452.

Exhibit 154. Further Extracts from an Article on "Our Western Boundary" by George H. Cannon, 1905, Vol. 50 Michigan Pioneer and Historical Collections, beginning on page 244, this being an addition to plaintiff's exhibit No. 62.

The defendant interposes and preserves the same objections as to this exhibit as were interposed and preserved to said exhibit 62. (This is shown as No. 63.)

M. M. Hoit, Special Commissioner.

Exhibit 155. Extracts from "Reminiscences of Early Days on Mackinac Island, by Elizabeth Therese Baird"—Vol. 14 Wisconsin Historical Collections.

Exhibit 156. Extracts from "Journal of An Episcopalian Missionary's Tour to Green Bay, by Jackson Kemper, D. D."—Vol. 14 Wisconsin Historical Collections, p. 394.

[fol. 1151] Exhibit 157. Extracts from an article on "Father Samuel Mazzuchelli" by James David Butler, L. L. D.—Vol. 14 Wisconsin Historical Collections p. 155.

Exhibit 158. Extracts from "Life and Work of the Late Rev. George N. Smith, a Pioneer Missionary, by Mrs. Etta Smith Wilson," Vol. 30 Michigan Pioneer and Historical Collections, p. 190.

Exhibit 159. Extracts from "Autobiographical Notes" by E. Lakin Brown, Vol. 30 Michigan Pioneer & Historical Collections, p. 424.

Exhibit 160. Extracts from "Old Keweenaw" by Prof. A. Tenbroeck, 1904, Vol. 30 Michigan Pioneer & Historical Collections, p. 139.

Exhibit 161. Extracts from an article entitled "From Vermont to Lake Superior, in 1845, by George W. Thayer," Vol. 30 Michigan Pioneer & Historical Collections, page 549.

Exhibit 162. Extract from "Wisconsin in Three Centuries,"—Campbell, Wisconsin Historical Library.

[fol. 1152] Exhibit 163. Extracts from "The Western Traveller" by J. Disternell, 1844. Detroit Public Library.

Exhibit 164. Extracts from "Illustrated History of Wisconsin," Tuttle, Wisconsin Historical Library.

Exhibit 165. Extracts from an article entitled "The Boundaries of Wisconsin," by Reuben Gold Thwaites, Vol. 11 Wisconsin Historical Collections, p. 451.

Exhibit 166. Extracts from an article written by Dr. John J. Sherman, of Marinette, Wisconsin, February 1902, a contribution to historical articles for Spies Public Library, Menominee, Michigan.

Exhibit 167. Extracts from a book entitled "Winter Studies and Summer Rambles" by Mrs. Anna Brownell Jameson, describing a trip in United States in 1837, published first in 1838, and then again in 1852 in a new edition entitled "Sketches in Canada and Rambles Among the Red Man." Quoted from Michigan Historical Magazine, beginning April 1924.

Exhibit 168. Copy of House Enrolled Act No. 15 of the Legislature of Michigan passed and approved at its Special Session in 1919, being the Act which created a Boundary Commission, for said estate.

No copies furnished.

[fol. 1153] Exhibit 169. Copy of House Enrolled Act No. 276 of the Legislature of Michigan, passed and approved in 1921, amending the former act which provided for the appointment of a Boundary Commission.

Exhibit 170. Report of engineers employed by the Michigan-Wisconsin Boundary Commission, on the Montreal river section.

Exhibit 171. Sketch to accompany above report.

Exhibit 172. Report of Engineers on the Menominee river, with accompanying photographs, referred to in the report.

Exhibit 173. Map of Michigan and Wisconsin showing drainage basins of the West Branch of the Montreal River and the Montreal River, also the portion of Wisconsin affected by boundary change.

Exhibit 174. Composite map drawn by Thomas R. Hasley, and introduced in connection with this report to show the land in dispute.

Exhibit 175. Not assigned.

Exhibit 176. Table of gauge height and discharge of the Montreal river at Ironwood, Michigan, during 1925.

Exhibit 177. Rating table for East Branch of the Montreal river at Ironwood, Michigan.

Exhibit 178. Rating curve for Montreal river, at Ironwood.

Exhibit 179. Photostat copy of a map attached to H. R. 382 of Congressional Globe, 24th Cong. 1st Session, report dated March 2, 1836, reporting the Thomas bill, which was not passed.

Exhibit 180. In lieu of producing this exhibit, it is stipulated that the map of Wisconsin and Iowa, published by authority of the Legislative Assembly of Wisconsin Territory in 1838, which is Exhibit B of the Bill of Complaint in this case, is a true copy of map No. 1 of Cram's first report.

Exhibit 181. In lieu of producing this exhibit, it is stipulated that the map Exhibit C attached to the Bill of Complaint in this case, is a true copy of the map of Michigan and Wisconsin, known as Map No. 2 attached to Cram's first report.

[fol. 1154] Exhibit 182. In lieu of producing this exhibit, it is stipulated that Exhibit D attached to the Bill of Complaint in this case, is a true copy of a map which accompanied the second report of Captain Cram.

It is further stipulated that Lucius Lyon was a delegate in Congress from Michigan at the time of Michigan's admission into the Union, and for several years prior thereto, and became United States Senator from Michigan immediately upon the admission of Michigan as a State into the Union, and that his home in Michigan was at the City of Grand Rapids, and so continued to be from 1830 until the time of his death.

That said Lucius Lyon had a sister, Miss Lucretia Lyon, who survived him and lived for many years in their old home on Kent Street in the City of Grand Rapids, Michigan, and there lived to a very old age, and until she died.

That December 26, 1843, at their home in Grand Rapids, Michigan, Miss Lucretia wrote to her brother Lucius Lyon, as follows:

"I suppose you will want to know what I have been doing since you left. I have been busily employed in filing your many newspapers, which S. A. T. & I have packed into boxes, and put away safely into the storehouse, (all up to this month). Your letters, and some other papers, that you left in baskets already filed, I have placed according to their several dates, packed them into a salt barrel, and had the head put in, on which the years were marked in which they were received, and put it into the store-house."

That November 10, 1846, at Grand Rapids, Michigan, Miss Lucretia Lyon wrote to her brother Lucius Lyon, as follows:

"* * * I must write further to introduce to you an old acquaintance and Friend, that I think you will be glad to see, viz: your Letter Book. I found it among some blankets in the bottom cupboard of the wardrobe, just below the shelves on which you kept your books and clothes. * * *"

[fol. 1155] That January 30th, 1847, Miss Lucretia Lyon wrote to her brother, Lucius Lyon, a letter dated at Grand Rapids, saying:

"* * * The 'Coat of Arms' for the state was folded up in the mattress and put into the larger box, and your large atlas was put into the smaller one."

Lucius Lyon died in 1851 and his effects were left in the possession of his said sister. Their nephew, George W. Thayer, lived with Miss Lucretia Lyon and cared for her for a long time prior to her death, and then came into possession of the remaining effects of Lucius Lyon.

That after the death of Lucius Lyon, his nephew, George W.

Thayer, erected a monument to his memory, in Elmwood Cemetery, Detroit, and the Michigan Coat of Arms, left by Mr. Lyon and which once had been a part of the great chandelier in the House of Representatives at Washington, and which was given to Mr. Lyon after the chandelier fell, was placed as an inset in the monument.

Mr. Thayer continued to hold possession of the papers and effects, and from such papers were taken those of his letters edited by Mr. L. C. Stuart, of Grand Rapids and published in Volume 27 of the Michigan Pioneer and Historical Collection.

That in 1909 a question arose as to the correctness of a State Seal, then being used, and, at the instance of the Daughters of the American Revolution Mrs. James H. Campbell of Grand Rapids, Michigan, undertook to investigate the question. Knowing that the Lucius Lyon papers were in the possession of said George W. Thayer she called upon him, and was informed by him that she was very welcome to review the Lucius Lyon letters in his possession, but that she must put on old clothes as they were very dirty. Appointments were [fol. 1156] made for such examination but postponed from time to time for various causes.

There were large quantities of letters and documents and they were in the Thayer barn in barrels, carpet bags, desks and on the floor, some of them had been nibbled by mice.

Finally Mr. Thayer and Mrs. Campbell agreed that during August 1914, they would inspect the papers. Before doing so, and on August 8th, 1914, fire destroyed the Thayer barn and a portion of the letters and papers, including the letters from which the copies were taken which were published in Volume 27 of the Michigan Pioneer and Historical Collecton.

That immediately thereafter Mr. Thayer gave all the remaining letters and documents, including letter-press copy books, to said Mrs. James H. Campbell, embracing many thousands in number, and she has ever since preserved and still retains possession thereof, and the letters offered as exhibits herein, purporting to be letters to Lucius Lyon, or copies of letters from him, except such as are from said Volume 27, were among the papers so received by Mrs. Campbell from Mr. Thayer.

That H. R. Sherwood, of Watervliet, Michigan, is a nephew of said George W. Thayer and was, a few years ago, visiting his said uncle George W. Thayer at Grand Rapids, Michigan, and on going there found his said Uncle looking over the papers and effects of his then late Aunt Lucretia Lyon, at her home on Kent Street. It was a very mixed and musty lot of stuff. Mr. Sherwood noticed a bundle of old newspapers, which Mr. Thayer told him had belonged to Lucius Lyon. Mr. Thayer then gave the bundle of newspapers to Mr. Sherwood, who has ever since had possession thereof. That [fol. 1157] quite recently said bundle of paners were opened in Mr. Sherwood's presence and the map, Plaintiff's Exhibit 6, was found among them, and had come with them when Mr. Sherwood got them from Mr. Thayer. Said Map is furnished by said Sherwood to plaintiff's counsel.

That among the many letters in the possession of Mrs James H.

Campbell are a great number of letters addressed to Mr. Lucius Lyon during the decade from 1830 to 1840, from various parties located in the villages then at the head of Green Bay, and copies of letters from Mr. Lyon to those several parties, including Messrs. Ellis, Doty, Grignon, Arndt, and others; some of which letters were dated as at Green Bay and some as at Navarrino; these facts are stipulated to avoid the necessity of introducing a very large mass of letters showing an extensixe correspondent between said Lucius Lyon and various prominent persons in Green Bay and Navarrino, and it is stipulated that many of those letters pertained to State matters and many to matters of business and that they show that Lucius Lyon became largely interested with parties then at Green Bay in lands in the now State of Wisconsin; located at Green Bay and near the present site of the City of Madison, and at the head of Lake Winnebago.

It is also hereby stipulated that Lucius Lyon during the time he was a delegate in Congress from the territory of Michigan, and thereafter, had correspondence with Governor Lewis Cass, Ramsay Crooks, representative at Michilli Mackinac of the American Fur Company and Robert Stewart.

It is further hereby stipulated that as to each Exhibits 65, 66, 67, 68, 69, 70, 71 and 78, a further objection is registered as follows: "Because of its having been written after the dispute arose as to the [fols. 1158 & 1159] location of the boundary and by parties adversely interested as to the boundary claimed by the defendant."

It is further agreed that as to Exhibit 78 objection is registered as follows: "On the ground that it is hearsay and that a copy of the original letter to which this is a reply has not been produced and that it was written after the controversy arose and at the suggestion of the party interested.

It is also further hereby agreed, stipulated and admitted that the following named persons, referred to in this stipulation, are deceased, to-wit;

Thomas Jefferson Cram, Henry R. Schoolcraft, Lucius Lyon, Miss Lucretia Lyon, George H. Cannon, Peter White and E. R. Hall.

This stipulation is executed in consideration of the execution of a similar stipulation concerning proposed exhibits of the Defendant, and the admissibility in evidence of each such stipulation is conditional and dependent upon the admissibility of the other thereof.

In Testimony Whereof the parties hereto have executed this stipulation by their respective Attorneys General and Special Counsel this 18th day of August, A. D. 1925.

State of Michigan, by Andrew B. Dougherty, Attorney General. Meredith P. Sawyer, Special Counsel. State of Wisconsin, by Herman L. Ekern, Attorney General. R. M. Rieser, Special Counsel.

[fol. 1160] IN SUPREME COURT OF UNITED STATES

[Title omitted]

STIPULATION AND STATEMENT RE DEFENDANT'S EXHIBITS

It is hereby stipulated and agreed by and between the parties hereto, through their respective attorneys and counsel, that in the taking of proofs before a Commissioner appointed by the Supreme Court, the Defendants proposed exhibits as below mentioned and described shall be received in evidence and shall be, by the Commissioner returned with her report of the proofs herein to said Court, as evidence and part of the record herein, under the following provisions and conditions:

First. Each such exhibit purporting to be an original is admitted to be the original, which by such offer it is claimed to be, unless otherwise specified in connection with the offering thereof.

Second. Each such exhibit purporting or claimed to be a copy of the original, whether of the public record, map, historical article, or otherwise, is admitted to be a true copy of the original as claimed by such offer and recited below, and such copy shall be by said Commissioner received in evidence, and shall be by her returned with her report herein with other proofs, to the Court, and may be by the Court received with all the force and effect that could be [fol. 1161] given to the originals thereof, where such originals duly proven so as to entitle them to be so admitted, and in each instance preliminary proof by way of foundation for the introduction of such exhibits is hereby waived, provided that each such exhibit so offered shall be received by the Commissioner subject to such objection or restriction as is below recited in connection with the offering thereof.

Third. Each exhibit so to be offered under the provisions hereof, shall be received subject to the right of the opposite party to object thereto at the hearing hereof before the Commissioner on the ground that the same is immaterial, but all other objections are hereby waived, except such as are specifically noted in connection with the offering of the exhibit objected to, and provided that as to all exhibits referred to herein, but which have not been submitted to the plaintiff, special stipulations shall be submitted with such exhibits showing the conditions under which such exhibits shall be received in evidence.

Fourth. The admission, above recited, as to such exhibits offered as copies of original, is limited to the extent that such admission shall only be construed as prima facie evidence that they are true copies. In case of error therein, proof may be offered by either party to correct such error, and the copy as established to be correct shall then remain in place of the copy corrected.

Fifth. This stipulation shall be filed with the Commissioner herein, and shall by him be returned to the Court with his return of the proofs herein, it shall be considered as evidence of the admission by the parties hereto of the facts and waivers recited herein [fol. 1162] to the extent of such recitals, and subject to the limitations and qualifications referring to specific exhibits.

Sixth. That as to the early records and maps in the Library of Congress of which copies are offered herein, no record can be found showing the dates of filing other than the dates appearing thereof.

The said Exhibits so proposed, being offered by said plaintiff are numbered and described as follows, respectively, and such special reservations and exceptions as are made to any thereof are recited in connection with the record thereof as to each such proposed exhibit. Plaintiff admits receipt of two copies except where otherwise specified.

Exhibit 1. Concerning Headwaters of the Montreal River. By John Johnston Mason, Vol. 2, p. 187.

Exhibit 2. Extract from article by Henry C. Campbell, entitled "Wisconsin in Three Centuries," found at Wisconsin Historical Library and relating to the region of Lac Vieux Desert.

Exhibit 3. Extract from Malhiot's Journal, in Wisconsin Historical collections relating to the Montreal River, 19 Wis. Hist. Coll.

Exhibit 4. Extract from Wisconsin Historical Collections, Article by James D. Doty on Northern Wisconsin in 1820, 8 Wis. Hist. Coll. 195.

Exhibit 5. Extracts from report of John Stockton, found in Senate Document No. 175, 28th Congress, 2nd Session, Serial Number 461.

Exhibit 6. Extracts from Executive Document, No. 211, 29th Congress, first Session, by A. B. Gray, on Mineral Lands on Lake Superior.

Exhibit 7. Extract of manuscript volume of Journal of Douglass Houghton, found in Library of the University of Michigan, Ann Arbor, being from pages 250, 263, 264, 265, 266, 267 and 268 of said Journal, referring to activities of 1840, and pages 297 to 302, inclusive, of said Journal referring to activities for the year 1841.

Exhibit 8. Letter from Surveyor General's Office, Detroit, May 19th, 1847, to Commissioner of General Land office with enclosures. [fol. 1163] Also special instructions to W. A. Burt from the Surveyor General at Detroit, Michigan, under date of May 1, 1847.

Exhibit 9. Contract of William A. Burt for survey of boundary line.

Exhibit 10. Extract from Senate Document No. 2, page 75, 30th Congress, first session, being part of the annual report of Lucius Lyon, Surveyor General.

Exhibit 11. Extracts from report and field notes of the survey as run and established by William A. Burt, 1847.

Exhibit 12. Extracts from Senate Document No. 57, 30th Congress, first Session, Serial No. 509, by Dr. David D. Owen, U. S. Geologist.

Exhibit 13. Extracts from Senate Document, 31st Congress, First Session, Serial No. 551, by C. T. Jackson, U. S. Geologist, on the mineral region of Lake Superior, and survey of Michigan mineral regions.

Exhibit 14. Extract from Senate Document No. 5, 31st Congress, First Session, Serial No. 571, Foster & Whitney's geological report.

Exhibit 15. Letter from Samuel F. Vinton to C. Billinghurst, found in Wisconsin Historical collections and relating to the northeastern boundary of Wisconsin.

Exhibit 16. Letter to C. Billinghurst from James D. Doty, dated July 7th, 1859, found in Wisconsin Historical Collections.

Exhibit 17. Extracts from geological survey of Michigan, 1865, Winchell.

Exhibit 18. Extracts from report on the geological survey 1873 to 1879, Volume 3, Chapter 1, relating to the geology of Wisconsin by Chief Geologist.

Exhibit 19. Extract from "General Historical Sketch of the Iron Region" in the first annual report, Commissioner of Mineral Statistics, State of Michigan, 1877 to 1878.

Exhibit 20. Extract from report of geological Survey of Michigan by Lucius L. Hubbard, Michigan State Geologist, 1881 to 1884.

Exhibit 21. Extract from Memoirs of Douglass Houghton by Alva Bradish, found in Michigan Historical Society files.

[fol. 1164] Exhibit 22. Extracts from "Biography of Lucius Lyon" by George W. Thayer.

Exhibit 23. Extract from "Tour of the Lakes" by Thomas L. McKinny.

Exhibit 24. Joint Resolutions of Michigan Legislature 1841 relative to boundary line.

Exhibit 25. Annual Report Michigan State Geologist, 1840.

Exhibit 26. Documents accompanying Journal of the House of Representatives, State of Michigan Annual Session, 1842, being report of State Geologist.

Exhibit 27. Extracts from the "Western Portraiture" by D. S. Curtiss.

Exhibit 28. Extracts from leaves of an Old Time Journal found in Wisconsin Historical Collections Vol. 30, pages 408-9.

Exhibit 29. Extract from an article on the northeastern boundary by R. G. Thwaites, in Wisconsin Historical Collections, Vol. XI, pages 469 to 485.

Exhibit 30. Extract from "Lake Superior Copper Mines" by John R. St. John, in Wisconsin Historical Library.

Exhibit 31. Resolutions of the General Assembly of Michigan, in relation to the Boundary Line.

Exhibit 32. Extracts from Constitution of Michigan as recommended by the Constitutional Convention of 1873.

Exhibit 33. Extracts from Debates and proceedings of the Constitutional Convention of Michigan, 1867.

Exhibit 34. Extracts from "Michigan as a Province, Territory and State," Volume 4, page 39, relating to defeat of proposed constitution of 1867, by Utley, Cutcheon and Burton.

Exhibit 35. Extracts from "Life and Times of William A. Burt, Michigan State Pioneer Society Collections, by George H. Cannon.

Exhibit 36. Extracts from House Miscellaneous Document No. 41, Volume 16, 48th Congress, Second Session, Serial No. 2326, 1884, Henry Gannet.

Exhibit 37. Extracts from "The Western Boundary" by Annah May Soule, M. L., a paper read to the Michigan Pioneer and Historical Society at its annual meeting in 1896.

[fol. 1165] Exhibit 38. Extracts from the "Boundaries of Michigan" by Professor Claude Larzellere, in Michigan Pioneer and Historical Society collections.

Exhibit 39. Extracts from Manual of the Constitutional Convention of Michigan of 1907.

Exhibit 40. Extracts from proceedings and debates of the Constitutional Conventions of Michigan, 1907.

Exhibit 41. Extracts from proceedings and debates of the Constitutional convention of Michigan, 1907.

Exhibit 42. Extracts from Adjutant General's Report, 1865.

Exhibit 43. Extracts from Returns of Election to Secretary of State of Wisconsin relating to islands in Green Bay.

Exhibit 44. Correspondence Michigan members of Congress and Executive Department on Boundary Survey—1840.

Exhibit 45. Extracts Journal Michigan Constitutional Commission, 1873.

Exhibit 46. Unassigned.

Exhibit 47. Extracts from Senate Document first session, 31st Congress, 1849 to 1850, Serial No. 551, by William A. Burt, entitled "A Geological Survey of Township Lines, Etc."

Exhibit 48. Extracts from Executive Document No. 69, Volume 9, 31st Congress, First Session, Serial Number 578, being a report on the Geology and Topography and conditions on the Menominee River.

Exhibit 49. Extracts from Book Entitled "Early Explorations" from Buffalo Public Library, Buffalo, N. Y.

Exhibit 50. Extracts from Journal of Episcopal Missionary Agent to Green Bay, 1834, Volume 14, Wisconsin Historical Collections (Jackson Kemper.)

Exhibit 51. Extracts from Light House Acts United States 4 Statutes at large, 719 to 721; 5 Statutes at Large, 181 to 185.

Exhibit 52. A letter from the Secretary of the Navy transmitting report of the Navy Commission of their proceedings under Act of March 3rd, 1837, House document No. 41, 25th Congress, Second Session.

[fol. 1166] Exhibit 53. Extracts from Captain Marryat's Diary of America, Volume 1, 1836, from Wisconsin Historical Library.

Exhibit 54. Extracts from Manuscript Volume of Journal by Douglass Houghton, being part of same Journal above referred to

Exhibit 55. Extracts from Executive Document No. 236, 36th Congress, First Session, Serial No. 368 by James D. Doty on Harbors of Lake Michigan.

Exhibit 56. Extract from pages 53 and 112 to 113 House Document No. 140, 27th Congress, Second Session, being from a letter of the Secretary of the Treasury to the Speaker of the House of Representatives, March 11, 1842.

Exhibit 57. Extracts from "Michigan as a Province, Territory and State" Volume 3, pages 322 to 339, by Clarence M. Burton.

Exhibit 58. Extracts from Great Lakes Pilot, relating to Green Bay, Northern Shore of Lake Michigan and adjacent lands to the Strait of Machinac and Routes on Lake Michigan.

Exhibit 59. Extracts from report of Secretary of War under date of September 15, 1863, 38th Congress, First Session, Volume 5, pages 187 and 188, Serial Number 1184.

Exhibit 60. Extracts from Carver's Journal, 1766 from Public Archives of Canada.

Exhibit 61. Carver's Surveys and notes relating to Green Bay, from Minnesota Historical Collections.

Exhibit 62. Petition by Northwest Fur Company for allowance of claims, from Public Archives of Canada.

Exhibit 63. Correspondence of Provincial Officials of Canada, from Canadian Public Archives.

Exhibit 64. Reminiscences of Wisconsin and Minnesota by Brissette.

Exhibit 65. Extract from "Men and Events" in Washington etc., Volume 30, Michigan Pioneer and Historical Collections 1905.

Exhibit 66. Extract from "Western Traveler" by J. Disturnell, 1844.

Exhibit 67. Extracts from proceedings of Chicago Harbor and River Convention, 1847 from Historical Series No. 18, 1882 by W. M. Hall, from Wisconsin Historical Library.

[fol. 1167] Exhibit 68. Extracts from "Western Portraiture" by Curtiss.

Exhibit 69. Extracts from "History of Chicago" by A. T. Andreas.

Exhibit 70. Extracts from the Message of the President of the United States, communicating Executive Document No. 52, Volume 8, 34th Congress, third Session, together with extracts from such documents.

Exhibit 71. Extracts from "Recollections of Early History of Northern Wisconsin" by Henry S. Baird, Wisconsin Historical Library.

Exhibit 72. Extracts from "Thompson Coast Pilot" Detroit, 1865 from Buffalo Public Library.

Exhibit 73. Extracts from "Illustrated History of Wisconsin" by Charles R. Tuttle, Chapter 11, Wisconsin Historical Library.

Exhibit 74. Extracts from "History of Northern Wisconsin", by Western Historical Company, 1881, p. 100.

Exhibit 75. Extracts from "Modern Antiquities" by Barton Atkins, 1898, from Buffalo Public Library, pages 63 to 72.

Exhibit 76. Extracts from proceedings of State Historical Society of Wisconsin, entitled "Reminiscences of Early North West" by Mary Mitchell, 1902, page 173.

Exhibit 77. Extracts from "Early Harbor History of Wisconsin" by R. G. Plumb, in Mississippi Valley Historical Proceedings, Volume 4, 1910 to 1911.

Exhibit 78. Extracts from "Story of the Great Lakes" pages 268 to 282 by Channing and Lansing, from Buffalo Public Library.

Exhibit 79. Extracts from the "History of Northern Peninsula of Michigan and Its People" Volume 1, by Alvah L. Sawyer, pages 173 to 561.

Exhibit 80. Extracts from Dr. Owen's Report of 1848.

Exhibit 81. Extracts from Reminiscences of Early Chicago, by E. O. Gale.

Exhibit 82. Extracts from "Chicago; Its History and Builders."

Exhibit 83. Extracts from "Character and Influence of Indian Trade in Wisconsin."

[fol. 1168] Exhibit 84. Extracts from "Development of Chicago prior to 1880" by Riley.

Exhibit 85. Extracts from House Document Number 79, 20th Congress, First Session, January 15, 1828.

Exhibit 86. Extracts from "Early days on the Lakes" Buffalo Historical Society Publications, Volume 5, 1902.

Exhibit 87. Extracts from "History of Navigation of the Great Lakes," Government Printing Office, Washington, 1911.

Exhibit 88. Extracts from brief sketch of Commerce of the Lake Buffalo 1847 by Barton from Buffalo Public Library.

Exhibit 89. Extracts from "Gazetteer of Michigan" by John T. Blois, 1840 Buffalo Public Library.

Exhibit 90. Extracts from United States Senate Document No. 58, 26th Congress, First Session, Message of President.

Exhibit 91. Extracts from "Annals of the West" Volume 3, J. R. Albach, 1857 from Buffalo Public Library.

Exhibit 92. Extracts from Internal Commerce, House of Representatives, Executive Document, 52nd Congress, 1st Session, Serial No. 2948.

Exhibit 93. Extracts from "History of Lumber and Forest Industry of the North West", by Hotchkiss, 1898, Wisconsin Historical Library.

Exhibit 94. Extracts from "Report of Quality, Etc. Wisconsin Territory," 1831 by Stambaugh.

Exhibit 95. Extracts from "The Early Days in the North West Waubun," by Mrs. J. Kinzie.

Exhibit 96. Extracts from "Developments of Chicago," Department of History, University of Chicago, by Riley E. A.

Exhibit 97. Extracts from "History of Cook County," by A. T. Andreas, 1884.

Exhibit 98. Extracts from "Annals of Chicago" Fergus Historical Series, Volume 1, 1840.

Exhibit 99. Extracts from "Early Chicago Reminiscences" Fergus Historical Series, 1882, Volume 3.

Exhibit 100. Extracts from "History of Door County," by Holand, 1917.

[fol. 1169] Exhibit 101. Photostat copy of map of North America, 1688. Jean Baptiste Louis Franquelin.

Exhibit 102. Photostat enlargement of sketch of Montreal River 1840, taken from page 266 of manuscript notes of Douglass Houghton above referred to.

Exhibit 103. Photostat enlargement of sketch of Montreal River 1841 taken from page 299 Manuscript Notes of Douglass Houghton above referred to.

Exhibit 104. Photostat map of Western end of Lake Superior and Michigan-Wisconsin Boundary, probably about 1841 taken from page 341 of Manuscript notes of Douglass Houghton, above referred to.

Exhibit 105. Photostat of map of Wisconsin from Farmer's Atlas published by Carey and Hart, Philadelphia, 1844.

Exhibit 106. Photostat of Map accompanying Report of A. B. Gray, 1845, Senate Document No. 175, 28th Congress, 2nd Session, Volume 11, Serial No. 461.

Exhibit 107. Photostat of Map of the Mineral Region of South Shore of Lake Superior from the latest survey showing locations up to July 17th, 1846 (by Jacob Houghton, Junior.)

Exhibit 108. Photostat of Map of Lake Superior, Mineral Agencies at Copper Harbor, with additions by John R. St. John, found in Wisconsin Historical Library.

Exhibit 109 (9 maps). Photostat of Township Survey Plats along Montreal River on the Wisconsin side.

Exhibit 110. Photostat Map of Part of Penokee District taken from the "Penokee Iron Bearing Series of Michigan and Wisconsin, United States Geological Survey" Serial Monograph No. 19, following page 138 by Irving and Van Hise, based on field work done in 1884 to 1886.

Exhibit 111. Photostatic copy of map "exhibiting all the new discoveries in the interior parts of North America, 1795, with additions to 1811, by A. Arrowsmith—Hydrographer, from public Archives of Ottawa, Canada.

Exhibit 112. Photostatic copy of a map of the United States of America exhibiting the seat of war on the Canadian frontier, 1816. From public Archives of Ottawa, Canada.

[fol. 1170] Exhibit 113. Photostatic copy of a map entitled "Carte du Canada Et De la Louisane Qui Formant La Nouvelle France et ses Colonies Angloises, 1756. By J. B. Nolin, Geographe, from Public Archives of Ottawa, Canada.

Exhibit 114. An accurate map of North America 1763 by Bowen and Gibson, from Public Archives of Ottawa, Canada.

Exhibit 115. A photostatic copy of "Partie Occidentale De La Nouvelle France," ou Canada. By Bellin, 1755. From Public Archives of Ottawa, Canada.

Exhibit 116. A photostatic copy of the Mississippi river valley, 1720, from Public Archives of Ottawa, Canada.

Exhibit 117. A photostatic copy of "British Dominions in America" by Kitchin, 1763. From Public Archives of Ottawa, Canada.

Exhibit 118. A photostatic copy of "New and accurate map of North America" 1755 from Public Archives of Ottawa, Canada.

Exhibit 119. A photostatic copy of "A map of the five Great Lakes, 1760." From the Public Archives of Ottawa, Canada.

Exhibit 120. Blue print of the "Junction of the West Branch with the Montreal River—Revised at lower water, Sept. 16, 1924.

Exhibit 120a. Same as Exhibit 120.

Exhibits 120, 120a, 121, 122, 122a, 123, 123a, 124, 124a, 125, 126, 127, 127a and 128. Assigned to exhibits produced, identified and offered as part of the oral testimony submitted by the defendant.

Exhibit 131. Photostat of part of Map of Wisconsin Territory 1829 by John Farmer from Burton Historical Collection, Detroit Public Library.

Exhibit 132. Photostat of Map of Northern parts of Ohio, Indiana and Illinois with Michigan and that part of Wisconsin territory lying east of the Mississippi River.

Exhibit 133. Photostat of Map of the territories of Michigan and Wisconsin, by John Farmer, 1836.

Exhibit 134. Photostat of Map of Michigan and part of Wisconsin, 1841, by David H. Burr.

[fol. 1171] Exhibit 135. Enlargement of Exhibit Number 134.

Exhibit 136. Unassigned.

Exhibit 137. Unassigned.

Exhibit 138. Unassigned.

Exhibit 139. Unassigned.

Exhibit 140. Unassigned.

Exhibit 141. Photographic copy of Map accompanying Report of Jean N. Nicollet, found in Executive Document, Congress, 2nd Session, Serial No. 464.

Exhibit 142. Photostat of map of that part of mineral land adjacent to Lake Superior ceded to the United States by the Treaty of 1842 by the Chippewas, accompanying Report of A. B. Gray, 1846 from Executive Document No. 211, 29th Congress, first session, Volume 27.

Exhibit 143. Photostat of Map accompanying Report of D. D. Owen, 1848, Geological Report found in Senate Document Number 57, 30th Congress, first Session, Serial Number 509.

Exhibit 144. Enlargement of portions of Exhibit 143.

Exhibit 145. Reproduction of Whittlesey's map of 1849 taken from "Penokee Iron Bearing Series of Michigan and Wisconsin, United States Geological Survey" Monograph number 19, facing page 20, by Irving and Van Hise.

Exhibit 146. Photostat of Map accompanying report of Captain John Pope, 1849, found in Senate Document 42, Volume 10, 31st Congress, first Session, Serial No. 558.

Exhibit 147. Photostat of Map of the State of Wisconsin published by Charles De Silver, 1857 from Richie's "Wisconsin and Its Resources, with Lake Superior, its Commerce and Navigation."

Exhibit 148. Photostatic copy of geological map of the mineral region from the official plats of the United States Surveys by Lieut. Byfield, reproduced by John Farmer, 1847.

Exhibit 149. Photostatic copy "Karte von Wisconsin" 1852—Von J. Grassel, Wisconsin Historical Collection, Univ. of Wisconsin, Madison.

[fol. 1172] Exhibit 150. Unassigned.

Exhibit 151. Photostat of Map of the Mouth of the Menominee River, 1839, taken from page 193 of Manuscript Notes of Douglass Houghton above referred to.

Exhibit 152. Copy of Map of Mouth of Menominee River on Green Bay, made 1862.

Exhibit 153. Diagram of Island in Section 10, Township 38 North, of Range 30 East, surveyed to be in the State of Wisconsin.

Exhibit 154. Diagram of Island in Section 13, 18 and 19, Township 37 North of Range 21 and 22 East, surveyed to be in the State of Wisconsin.

Exhibit 155. Unassigned.

Exhibit 156. Unassigned.

Exhibit 157. Unassigned.

Exhibit 158. Unassigned.

Exhibit 159. Unassigned.

Exhibit 160. Unassigned.

Exhibit 161. Photostat Map of the Northwestern territory of United States showing the course pursued by the Expedition of Governor Cass in 1820.

Exhibit 162. Photostat of Portion of map of the territories of Michigan and Wisconsin by John Farmer, in 1830.

Exhibit 162a. Same as 162, except on smaller scale, showing legend.

Exhibit 163. Photostat of Traveler's Map of Michigan, Illinois, Indiana and Ohio, published in New York, 1836.

Exhibit 164. Photostat of Map showing the route of the Fox and Wisconsin River Improvement, 1853.

Exhibit 165. Unassigned.

[fol. 1173] Exhibit 166. Photostat Disturnell's map (1865) Lake Region. From Archives of Canada.

Exhibit 167. Photostat of Map by Engineering Department United States Topographical Bureau relating to Green Bay, 1816-1817. War Department files, Washington, D. C.

Exhibit 167a. Also letter of transmittal attached as Exh. 167a.

Exhibit 168. Unassigned.

Exhibit 169. Unassigned.

Exhibit 170. Photostatic copy of map, exhibiting the position of lands occupied by the Indian tribes in amity with the United States and also the lands ceded to the United States by treaty with various Indian tribes compiled by Bureau of Topographical Engineers, 1839.

Exhibit 171. Photostat of Map exhibiting the Light-Houses on the Lake Coast of the United States in 1848.

Exhibit 172. Photostat enlargement of map showing the entrance to Green Bay in 1853 by John Farmer.

Exhibit 173. Photostat of Map accompanying report of Colonel J. D. Graham 1863 taken from report of Secretary of War and Post Master General 38th Congress, first Session, Volume 5, page 188, Serial No. 1134.

Exhibit 174. Blue Print Map of Plum Island, Range Light Station Wisconsin.

Exhibit 175. Unassigned.

Exhibit 176. Unassigned.

Exhibit 177. Unassigned.

Exhibit 178. Unassigned.

Exhibit 179. Unassigned.

Exhibit 180. Unassigned.

Exhibit 181. Photostat of Map of the settled part of Wisconsin territory compiled from latest authorities Philadelphia, 1837.

[fol. 1174] Exhibit 182. Photostat of Topographical map of Wisconsin Territory supplied from the Public Surveys by Morrison and Dwelle, 1837.

Exhibit 183. Map of Wisconsin Territory compiled from the Public Surveys by Captain T. J. Cram, 1839, Senate Document Number 140, First Session, 26th Congress, 1839, to 40.

Exhibit 184. Photostat Map of Boundary Line between Michigan and Wisconsin as run and established by William A. Burt, 1847.

Exhibit 185. Photostat sketch of the Public Surveys of Michigan, 1847.

Exhibit 186. Photostat sketch of the Public Surveys of Michigan, 1851.

Exhibit 187. Photostat sketch of the Public Surveys of Michigan, 1852.

Exhibit 188. Photostat sketch of the Public Surveys of Michigan, 1855.

Exhibit 189. Photostate sketch of the Public Surveys of Michigan, 1857.

Exhibit 190. Photostat sketch of the Public Surveys of Michigan, 1866.

Exhibit 191. Photostat sketch of the Public Surveys of Michigan, 1878.

Exhibit 192. Photostat sketch of the Public Surveys of Michigan, 1888.

Exhibit 193. Sketch of the Public Surveys of Wisconsin, 1847.

Exhibit 194, Sketch of the Public Surveys of Wisconsin, 1851.

Exhibit 195. Sketch of the Public Surveys of Wisconsin, 1866.

Exhibit 196. Sketch of the Public Surveys of Wisconsin, 1878.

Exhibit 197. Photostats of Township maps from Mouth of Montreal River to Captain Cram's monument designating headwaters of Montreal River and from Lac Vieux Desert to Mouth of Menominee River on Michigan side of the boundary.

[fol. 1175] Exhibit 198. Township maps from monument designated by Cram as head waters of Montreal to Mouth of Menominee River on Wisconsin side of boundary. Also letter referring to Islands in Menominee River, dated June 5, 1862, attached to map 28.

Exhibit 199. Map of the Department of Interior compiled 1910 to 1911 published in 1922, referring to the upper Peninsula of Michigan.

Exhibit 200. Map of upper half of State of Wisconsin by Department of Interior compiled in 1910 and 1911.

Exhibit 201. General Chart of Lake Michigan by Engineer Corps, United States Army, 1923.

Exhibit 301. Extracts from minutes of Northwest Company, 1806, and Archives of Canada.

Exhibit 302. Letter R. Crooks to John Holliday, dated August 2, 1819, from original books of American Fur Company, Mackinac Island.

Exhibit 303. Letter of R. Crooks to John Holliday, dated July 29, 1821, from original books of American Fur Company, Machinac Island.

Exhibit 304. Letter R. Crooks to John Holliday, dated July 30, 1821, from original books of American Fur Company, Machinac Island.

Exhibit 305. Extracts from Letters of Lucius Lyon, 1836-1840.

Exhibit 306. Extracts Proceedings of Congress, June 9, 1846, from Cong. Globe, First Session, 29th Congress, also showing membership in Congress from Michigan.

Exhibit 307. Letter of Morgan L. Martin to Lucius Lyon, dated August 10, 1846.

Exhibit 308. Extracts from minutes 29th Legislature, Michigan, 1877-78.

Exhibit 309. Extracts Niles Weekley Register, Volume 20 and 39.

Exhibit 310. Extract from letter Robert Stuart to Pierre Grignon, October 25, 1821.

Exhibit 311. Extract "Picturesque Mackinac", State Historical Society, Wisconsin, 1884.

Exhibit 312. Extract Michigan Pioneer and Historical Collection, Vol. 8, 1885, page 553, in reference to Custom Collections, District of Mackinac, 1806.

[fol. 1176] Exhibit 313. Extracts "The Fur Trade in Wisconsin", Wisconsin Hist. Collections, 36th Annual Meeting, 1889.

Exhibit 314. Extract from "Mackinac", by John R. Bailey, 1895-1896, pages 153-185.

Exhibit 315. Extract "Early Mackinac", Meade C. Williams, Third Edition, 1901, Wisconsin Historical Society.

Exhibit 316. Extracts "Historic Mackinac", Edwin O. Wood, Volume 2, 1918.

Exhibit 317. Extracts "Highways and By-ways of the Great Lakes" Clifton Johnson, Wisconsin Historical Society.

Exhibit 318. Extracts Senatorial Document No. 225, 24th Congress, Second Session, 1836.

Exhibit 319. Extract Senatorial Document #375, 24th Congress, First Session, Serial No. 283.

Exhibit 320. Extract Senatorial Document, #375, Twenty- fourth Congress, First Session. Serial No. 283.

Exhibit 321. Extract Senatorial Document #375, Twenty-fourth Congress, First Session, Serial No. 283.

Exhibit 322. Extract Senatorial Document #149, Twenty-third Congress, Second Session, Serial No. 269.

Exhibit 323. Extract Senatorial Document #149, Twenty-third Congress, Second Session, Serial No. 269.

Exhibit 324. Extract Senatorial Document #258, House of Representatives, Twenty-fourth Congress, First Session, Serial No. 291.

Exhibit 325. Extract Senatorial Document No. 1, Twenty-eighth Congress, First Session, Serial No. 431.

Exhibit 326. Extracts Senatorial Document No. 52, Thirty-fourth Congress, Third Session.

Exhibit 327. Communication Secretary of Treasury on "Fur Trade" in response to Senate Resolution dated March 8th, 1851.

Exhibit 328. Extracts "Treaty with Menominee Indians" Dated February 8, 1831. From 7 U. S. Statutes, page 342.

Exhibit 329. Extracts "Treaty Ottawa and Chippewa Nations" dated March 28, 1836. From 7 U. S. Statutes, page 491.

[fol. 1177] Exhibit 330. Extracts "Bulletin No. 33, U. S. Lake Survey Office, April, 1924."

Exhibit 331. Extracts from "Seventy-two Years Recollection of Wisconsin" by Augustin Grignon, Wisconsin Hist. Collections Vol. 111, 1873, p. 281.

Exhibit 332. Extracts from letters of Lucius Lyon, Vol. 27, Michigan Pioneer and Historical Collections, 1896.

Exhibits 333-359. Assigned to exhibits produced, identified and offered as part of the oral testimony submitted by the defendant. Numbers 351 and 352 have been renumbered and are exhibited as 120 and 120A.

Exhibit 360. Letter Houghton to Barry, 1831.

Exhibit 361. Extracts from notebook of Beulah Hubbard, July 14th to Aug. 1, 1840, from office State Geologist, Lansing, Michigan.

Exhibit 362. Extracts from various acts of Wisconsin Legislature in relation to creation of counties.

Exhibit 363. Extracts Historical andStatistical Information referring to Indian Tribes, published by authority of Congress, 1851.

Exhibit 364. Photostatic copy of receipt for township plats in Wisconsin given U. S. Government by State of Wisconsin.

Exhibit 365. Correspondence, Instructions and Surveyor's Notes relating to islands in the Menominee River from State Land Office, Madison, Wisconsin.

Exhibit 366. Correspondence of officials in Michigan, 1876 in relation to islands in Menominee River.

Exhibit 367. Correspondence and petition referring to Light House, entrance to Green Bay, January and February, 1832, from Public Records, Washington.

Exhibit 368. Extracts from Winchell's Notes taken in 1870.

Exhibit 369. Extracts from Barnette's Coast Pilot, Chicago, 1872.

Exhibits 370, 371, 372, 373, 374, 375, 376, 377, 378, 379. Assigned to exhibits produced, identified and offered as part of the oral testimony submitted by the defendant.

Exhibit 380. Report upon the Michigan-Wisconsin Boundary by J. B. Davis, to Attorney General John E. Bird, 1909.

[fol. 1178] It is further stipulated and agreed that the above and foregoing stipulations are conditioned upon similar stipulations

being enered into with reference to certain exhibits offered by the Plaintiff herein, and that the admissions and concessions herein contained are dependant upon the similar admissions and concessions being made, as to the exhibits of the Plaintiff herein, and that the admissions and concessions made with reference to Plaintiff's exhibits are conditioned upon the foregoing stipulation, being signed and accepted.

Dated this 18th day of August, 1925.

State of Michigan, by Andrew B. Dougherty, Attorney General. Meredith P. Sawyer, Special Counsel. State of Wisconsin by Herman T. Ekern, Attorney General. R. M. Rieser, Special Counsel.

[fols. 1179 & 1180] IN SUPREME COURT OF UNITED STATES

[Title omitted]

STIPULATION AS TO PARTS OF RECORD TO BE PRINTED—Filed December 2, 1925

It is hereby stipulated by and between the parties to the above entitled action through their respective attorneys that the following parts of the record and no more in the above enttiled action be printed, to wit: the oral testimony taken before the Masters in this proceedings, the depositions taken in said proceeding, the stipulations entered into by the parties to said action and Wisconsin Exhibit No. 380.

It is further stipulated that upon the filing of this stipulation with the clerk of the United States Supreme Court, said clerk may proceed to procure estimates of the cost of printing said record, and proceed with the printing thereof without further notice to either of the parties hereto.

Dated this 28th day of November, 1925.

Andrew B. Dougherty, Attorney General of Michigan; Carl D. Mosier, Asst. Attorney General of Michigan; Meredith P. Sawyer, Special Counsel, Attorneys for the Plaintiff. Herman L. Ekern, Attorney General of Wisconsin; Robert M. Rieser, Special Counsel, Attorneys for Defendant.

[File endorsement omitted.]

Office Supreme Court, U
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WM. R. STANSBU
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In The

Supreme Court of the United States

Original No. [redacted]19

STATE OF MICHIGAN,
Plaintiff,
v.
STATE OF WISCONSIN,
Defendant.
} In Equity.

PETITION FOR LEAVE TO FILE BILL OF COMPLAINT.

ANDREW B. DOUGHERTY,
Attorney General for the
State of Michigan.

ALVAH L. SAWYER,
Menominee, Michigan,
Special Counsel.

Mich. Brief & Record Co., 4460 Field Ave., Detroit, Mich.

In The

Supreme Court of the United States

Original No.

STATE OF MICHIGAN, *Complainant,*		
v.	}	In Equity.
STATE OF WISCONSIN, *Defendant.*		

PETITION FOR LEAVE TO FILE BILL OF COMPLAINT.

The complainant, State of Michigan, comes now, by Andrew B. Dougherty, its Attorney-General, and represents to the above entitled court that there is serious dispute between the states of Michigan and Wisconsin over the location of a large portion of the northwest boundary of the State of Michigan. That said dispute involves jurisdiction over approximately 255,000 acres of land of great value, including extensive mineral values and extensive water powers and other water rights. That the territory involved was described and included in the Act permitting the People of Michigan to form a state government (which Act was approved June 15, 1836), and was granted to the State of Michigan by the Act admitting Michigan into the union, approved January 26, 1837.

That the territory of Wisconsin was created about the same time, with identical boundaries along the line of the present dispute.

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That thereafter a survey of said line was provided by Congress to be made in accordance with the description in said Michigan Act and said survey was undertaken through directions of the War Department by Captain Thomas Jefferson Cram, who, after surveying a portion thereof, reported that because of physical conditions said line could not be located in accordance with the said description in said Act, and said Cram recommended further legislation to locate said line, in various parts thereof, contrary to the provisions of said description in said Michigan Act.

That as a matter of fact said Thomas Jefferson Cram was mistaken in his said report and unjust to Michigan in his said recommendation. His report, to the effect that said line as described in said Act was an impossible line, was made a part of a senatorial document and has remained of record and has sufficed to mislead, and has misled the people and the officials of the State of Michigan as to the true facts and as to their rights in regard thereto, and has also misled the officials of the Government of the United States in regard to said facts.

That as a matter of fact the said line was possible of location and could have been accurately located had the line been followed in its course in accordance with the directions of the Act of Congress providing for such survey, but, because of the country being a complete wilderness, very hard of access, and further because of an inadequate appropriation for the examination of the entire line, and because of misinformation received by said Captain Cram, leading him to believe that a certain lake, now known as Lac Vieux Desert, but sometimes called Lake of the Desert, was the Lake of the Desert mentioned in the description of the said boundary as being reached through the main channel of the Montreal River (while, as a matter of fact, said Lac Vieux Desert is more than sixty miles from the said lake referred to in said boundary) and because said Captain Cram was informed (and he reported that he was informed) that there was no lake at the head of the river Montreal as contemplated by the said description of said boundary, his

said mistaken report was made. Furthermore, as a matter of fact, the Montreal River, at a short distance above its mouth, divides itself into two channels known as the West and East branches thereof, and it is claimed by Michigan that the West channel, with Island Lake at the head thereof, is the main channel and said Island Lake was one of several lakes, then known as Lake of the Desert and is a point in said boundary, but said Captain Cram surveyed the East channel of said Montreal River and reported the same as a survey of the Montreal River, and did not survey or report the said West branch of said river. That at the head of said East branch of said Montreal River there is a lake of considerable size known as Pine Lake. That said Captain Cram, in surveying said East branch, marked a point something over six miles below said last mentioned lake, arbitrarily, where the said East branch forked, as the head of the Montreal River, and to that point surveyed a line from the center of said Lac Vieux Desert on the theory that said Lac Vieux Desert was a point in said boundary made necessary because, as he claimed, it was the lake called Lake of the Desert in describing said boundary in said Act, and on the theory that the point arbitrarily established by him was the head of the Montreal River. That from said Lac Vieux Desert said Captain Cram surveyed a line to Lake Brule as the head-waters of the Brule River, a branch of the Menominee, whereas a correct survey of said boundary would have provided a direct line from Island Lake, at the head of the West branch of the Montreal River to said Lake Brule at the head of Brule River.

Said Captain Cram further recommended, disregarding the fact that the boundary of Michigan's grant was described as the center of the main channel of the Brule and Menominee Rivers, further legislation should be had providing that the boundary should be so run as to give Michigan all the islands above a certain point in the Menominee River, and Wisconsin all the islands below that point in the Menominee River, which recommendation, if carried out, would have the effect to give Wisconsin a large number of very valuable islands that had been granted to the State

of Michigan, and practically all the valuable islands in the Menominee River.

Furthermore, as to the boundary line through Green Bay, the said description in said act, made said boundary to run through the most usual ship channel of said Green Bay to the center of Lake Michigan, but notwithstanding that fact, said Cram recommended further legislation so as to designate the "best" ship channel.

That following said Captain Cram's said erroneous report as to the impossibility of locating said boundary line, Congress directed a survey of the country so as to enable it to properly locate said line, and Captain Cram made a further and other survey and map of said country and discovered some of the errors of his former report, but again reported that said Lac Vieux Desert was an essential point in the boundary as it was described in said Michigan act, and he did not, and did not assume to locate said line as in said Michigan act described, and the same has never been located, except as to a very small part thereof.

That shortly after said Cram's second report, and in the year 1842, a bill was introduced in Congress for the purpose of amending said Michigan state-hood act of 1836, wherein it was sought to alter the description of the boundary and to describe the same substantially as now claimed by the State of Wisconsin, but said bill did not become a law. The same bill was reintroduced in the next session of Congress and failed of passage. Thereafter, in 1846, Congress passed an act to enable the People of Wisconsin territory to form a government and therein the description was in serious conflict with the description in said former grant to Michigan. Said description did not conflict with the Michigan boundary, as described, through the waters of Green Bay, but it did conflict with said Michigan boundary by purporting to grant to Wisconsin all the islands in Menominee River below Quinnesec Falls, which includes practically all of the very valuable islands in said river, and it did conflict with said Michigan boundary in that it

purported to run the boundary line from Lake Brule, at the head of Brule River, to a certain point in said Lac Vieux Desert, and then in a direct course to the said point so arbitrarily marked by Captain Cram on the East branch of the Montreal River, and by him reported as the "head proper" of the Montreal River (said point being about six miles below the lake at the head thereof), and thence down the center of the main channel of the East branch and to the mouth of the Montreal River; but said Wisconsin Act provided that Congress should not be bound by the description of the boundaries therein recited unless the same should be ratified by Michigan before a certain fixed date, about two years thereafter.

That said boundaries as described in said Wisconsin Act were never ratified by Michigan, but Michigan has repeatedly asserted boundaries in conflict with the said claims of Wisconsin so that said Wisconsin Act has never constituted a grant of the disputed territory because its condition has not been complied with.

That a large part of the territory involved continued a wilderness until about the year 1885, and was from that time but very gradually settled, and that portion thereof around Island Lake still remains an absolute wilderness and very hard of access. The fact of the said errors in said reports of Captain Cram, and the real facts as to the conflict in said claimed boundary, did not become known to the officials of the State of Michigan at all until about the year 1906, and the facts as to a portion of said disputes did not become known to the officials of the State of Michigan until within the last four years.

That although the description of the boundary in the grants to Michigan and Wisconsin, as such boundary runs through the waters of Green Bay, are not in conflict, the State of Wisconsin has possessed and continues to possess and exercise jurisdiction over a large number of very valuable islands that are within the boundary described in the grant of state-hood to Michigan, and the State of Wis-

consin has for a long time possessed and exercised sovereignty over nearly all portions of the territory so in dispute as aforesaid, and continues so to do, against the rights and to the exclusion of the State of Michigan.

The State of Wisconsin has twice refused to join the duly constituted authorities of Michigan in attempts made by Michigan to effect an amicable adjustment of said disputed boundary, and continues absolutely to refuse to join in any negotiations for that purpose.

The facts, of which the foregoing are but a brief outline, are set forth in the accompanying bill of complaint, entitled as aforesaid, and this petitioner asks leave of this court to file said bill of complaint for the purpose of having said boundary line established and marked, and having the possession of and right of sovereignty over the disputed territory placed and confirmed in the State of Michigan.

Very respectfully,

Frederick W. Dougherty
Attorney General of the
State of Michigan.

Hugh L. Dawson
Menominee, Michigan,
Special Counsel.

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WM. R. STANSB
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In The

Supreme Court of the United States

October Term, 1923.

Original No. [redacted] 19

STATE OF MICHIGAN,
Plaintiff,
v.
STATE OF WISCONSIN,
Defendant.
} In Equity.

AFFIDAVIT.

ANDREW B. DOUGHERTY,
Attorney General,
A. L. SAWYER,
Special Counsel,
Attorneys for Plaintiff.

Mich. Brief & Record Co., 4459 Field Ave., Detroit, Mich.

In The

Supreme Court of the United States

October Term, 1923.

Original No. 25.

STATE OF MICHIGAN,
Plaintiff,
v.
STATE OF WISCONSIN,
Defendant.
} In Equity.

AFFIDAVIT.

State of Michigan,
County of Menominee—ss.

Alvah L. Sawyer, being duly sworn, says:

1. That he makes this affidavit in behalf of the plaintiff, and in opposition to the motion of defendant to dismiss this action.

2. That he is special counsel for plaintiff herein, but that, notwithstanding that fact, he makes this affidavit because he is the only surviving member of the Michigan-

Wisconsin Boundary Commission which investigated the matters involved in the issues herein, in behalf of the State of Michigan, and that he had principal charge of said investigation and is therefore probably better informed as to the evidence which plaintiff expects to produce to substantiate its case than is any other person.

3. That his investigation has disclosed and he expects the plaintiff will be able to and will produce, to sustain all the claims of the Bill herein, large amounts of evidence, oral, public documents, historical writings, letters and other documents of which courts do not take judicial notice, and he believes the evidence that can and will be so produced will negative the defendant's claim of acquiescence asserted in its motion to dismiss this case.

Deponent further says, as to the documentary evidence of which he believes the court will take judicial notice, much of the same consists of portions of Committee reports, reports of Federal Government and State officials and representatives, records of debates and proceedings in Congress and in two of Michigan's Constitutional Conventions, of such nature that there may be controversy between the parties as to the parts thereof that are material and admissible, and so extensive that they cannot be conveniently and fairly submitted within the rules of practice governing hearings upon motions, and they can be much more readily and fairly presented through the customary method of taking proofs before commissioners.

4. In the way of oral evidence deponent says the plaintiff has prepared to prove by competent engineers that the West Branch of the Montreal River is the Main Channel and was such in 1836, and that in the Menominee River and Green Bay many important islands on the Michigan side of the main channel are included in the Government survey of Wisconsin lands, but that it was not known to Michigan officials until within the past four years that any of the islands so connected with the Wisconsin survey were in fact on the Michigan side of the channels, those channels never having been surveyed. Further, that the plain-

tiff is prepared and expects to prove, by oral evidence, that the Constitutional Convention of 1908 had not learned and did not know of any of the alleged mistakes of Cram except that in regard to locating the East Branch of the Montreal River and its head waters.

5. By the use of both documentary and oral evidence the plaintiff, among the proofs to be offered, will especially offer proofs to show that on June 15, 1836, at the time of the cession of statehood to Michigan, Congress was advised that there was a lake connected with the main channel of the Montreal River, known as Lake of the Desert, and was likewise advised that the lake then and now known as Lac Vieux Desert was not connected with the Montreal River but was widely separated therefrom by an expanse of unknown country, and was unable to procure a reliable map of the Menominee River and its tributaries.

Also, that the East and West Branches of the Montreal River each had an Indian name, and that the whole system with its several branches was then known as the Montreal River.

Also, that the errors in Captain Cram's two reports misled the people of Michigan, as to their rights and as to the transgression thereof by Wisconsin, and that such transgressions regarding the Montreal River section were none of them known to Michigan until 1907, and as to parts thereof, and as to the Menominee River and Green Bay Sections such transgressions by Wisconsin upon the rights of Michigan were not known to Michigan prior to the year 1920, and the course pursued by Wisconsin in regard thereto was such as to lull the people of Michigan into a sense of security in their rights.

Also, by the use of various maps, and oral evidence deponent is informed and believes the plaintiff will show, as to the Lighthouse sought to be located on Pottowamie Island, referred to in defendant's brief, that Washington Island, forming the north shore of Death's Door, was then known as Pottowamie Island, and was so shown on various maps.

Deponent further says that within the past six months he has discovered the location of and secured access to a very large quantity of the papers of Lucius Lyon, and among them are numerous letters written to him and copies of letters written by him concerning the location of the boundary at the time when he was Michigan's Territorial delegate in Congress just before and at the time Michigan was admitted into the Union, and regarding conditions affecting portions of the boundary line for some time thereafter, some of which are very material to the issue herein sought to be tried by said motion, and that upon a hearing of said cause such of said letters and papers as are material to the issues in the case can be produced.

Deponent further says he has learned of the location of and been permitted to examine the original letters from George H. Cannon to Hon. Peter White, through one of which, written in 1906, the fact that the East Branch of the Montreal River was not the main Channel thereof was first, and very soon thereafter, brought to the attention of the officials of Michigan. That the said letters are not now in the possession of deponent or of the plaintiff, but they can be procured for use at a hearing in said cause.

As a showing of good faith there is attached hereto a copy of one of said letters written by Henry R. Schoolcraft to Lucius Lyon, then Michigan's delegate in Congress, dated February 20th, 1836, marked Exhibit 1.

A. L. Sawyer.

Subscribed and sworn to before me this 13th day of March, 1924.

J. Charles Guay,
Notary Public,
Menominee County,
Michigan.

My commission expires May 20th, 1925.
(Seal.)

Exhibit One.

Washington, Feb. 20th, 1836.
Saturday Morning.

Dear Sir:

Since seeing the committee yesterday, I have reflected upon the character of that portion of the Lake Superior region, lying west of Vieux Desert Lake, extending to the mouth of the Montreal. It embraces the bare primitive district of the Porcupine Mountains, and nothing more.

I have also compared notes, so to say, with a trader who has passed many years of his life, in the area of country between the Menominee River and the banks of Lake Superior. The result is that I can find no map of the Menominee River, which can be relied on. This stream makes its prominent bend towards the lake, so as to narrow the range of good land on that side.

Viewed as a question of equivalent, in fixing boundaries, it would be better, for the interests of Michigan, to give up the area west of Vieux Desert, and take a line from the lake north, following down the Ontonagon to Lake Superior, if, *by such relinquishment,* the line from Green Bay could be carried up the Pashaytigo (about 9 miles south of Menominee) to its head, thence to *Terre Blanche* portage, and thence west to Vieux Desert Lake. This would give Michigan (exclusively) a port on Green Bay of considerable value supported by the whole valley of the Menominee.

If such a line cannot be obtained, it would be most expedient, in my opinion, to throw the entire geological basin of Lake Superior into Michigan, to which it naturally belongs, by running a land line from Vieux Desert Lake west to *Lac Court Orielle* (Cut Ear, or Ottowa Lake) and thence due north to the northern boundary of the U. S.

Very respectfully yours,

Hon. L. Lyon. Henry R. Schoolcraft.

The above letter was labeled on the back as follows:

Henry R. Schoolcraft, Esq.,
Feb. 20, 1836.

In The

Supreme Court of the United States

Original No.

STATE OF MICHIGAN, *Complainant,*		
v.	}	In Equity.
STATE OF WISCONSIN, *Defendant.*		

BILL OF COMPLAINT.

To the Honorable the Chief Justice and the Associate Justices of the Supreme Court of the United States:

The State of Michigan, one of the states of the United States of America, by Andrew B. Dougherty, its Attorney General, brings this, its bill of complaint, against the State of Wisconsin, another of the United States of America, and, complaining of the said State of Wisconsin, says:

1.

That under and by virtue of an act of Congress approved January 26, 1837 (5 U. S. Statutes at Large, page 144), Michigan was admitted into the Union upon an equal footing with the original states of the United States and granted sovereignty over all the territory described in her Enabling Act, which had been passed by Congress, approved June 15, 1836, entitled "An Act to establish the

northern boundary line of the State of Ohio, and to provide for the admission of the State of Michigan into the Union, upon the conditions therein expressed" (U. S. Statutes at Large, Vol. 5, page 49), in which said act that portion of the boundaries of Michigan pertinent to the issues herein was described as running through Lake Superior to the mouth of the Montreal River, and then as follows:

> "thence through the middle of the main channel of said river Montreal, to the middle of the Lake of the Desert; thence in a direct line to the nearest headwater of the Menominee River; thence through the middle of that fork of said river first touched by said line, to the main channel of said Menominee River; thence down the center of the main channel of the same, to the center of the most usual ship channel of the Green Bay of Lake Michigan; thence through the center of the most usual ship channel of said Bay to the middle of Lake Michigan;" * * *

2.

That for several years prior to the passage of said Enabling Act under date of June 15, 1836, there had been pending in Congress a dispute between the states of Michigan and Ohio over the southern boundaries of Michigan, an application for admission of Michigan into the Union, and an application for the creation of the territory of Wisconsin, all of which were in the hands of the Judiciary Committee of the Senate of the United States. That during the year 1834 it was tentatively agreed in Committee that Ohio should be granted her claims along the southern boundary and that the then proposed boundaries of Michigan should be extended so as to grant to Michigan further territory along her northwestern boundary, including a large portion of what is now the Upper Peninsula in Michigan, with such boundary defined by the course of the channels of the Montreal River of Lake Superior and the Menominee River of Green Bay of Lake Michigan, and it was then made to appear by an erroneous map of that section

of the country then had by said Committee, that said Montreal and Menominee rivers found a common source in Lac Vieux Desert, thus forming a continuous water boundary in a comparatively direct course from Lake Superior to Green Bay of Lake Michigan, and so running as to include within the then proposed boundary much more territory than the true course of said rivers does include therein.

3.

That by said Act providing for the admission of Michigan such admission was made conditional on the acceptance by Michigan of the provisions thereof in regard to the boundaries thereby fixed, including the boundaries between Michigan and Ohio, and the assent of the State of Michigan thereto was given in accordance with the requirements of said act of Congress, by resolution of a convention held for that purpose on the 15th day of December, 1836, so that, upon the passage of said Act of January 26th, 1837, Michigan became possessed of full statehood and of complete sovereignty over the territory within her boundaries as therein described.

4.

That shortly prior to the passage of said Michigan Enabling Act, Congress, by Act approved April 20, 1836 (U. S. Statutes at Large, Vol. 5, page 10), created the territory of Wisconsin, adjoining the then proposed State of Michigan, with boundary identical with the said quoted boundary along the northwestern portion of the State of Michigan, but described in a reverse order, after describing the same through the middle of Lake Michigan, as follows:

> "to a point in the middle of said lake and opposite the main channel of Green Bay, and through said channel and Green Bay to the mouth of the Menominee river; thence through the middle of the main

channel of said river, to that head of said river nearest to the Lake of the Desert; thence in a direct line to the middle of said lake; thence through the middle of the main channel of the Montreal River, to its mouth; thence with a direct line across Lake Superior." * * *

5.

That at the time of the passage of said several acts of Congress above referred to the territory along a large portion of the said proposed boundary line was wild and little known, inhabited by Indians, much of it heavily timbered and accessible only by the endurance of great hardships. That after the proposed boundary had been so tentatively agreed upon by the Judiciary Committee of the Senate in 1834, and prior to the passage of said act granting statehood to Michigan and creating the territory of Wisconsin, it was learned by Congress that the said boundary was not a continuous water boundary and that there were numerous lakes in that portion of the territory from the headwaters of the Menominee River to the headwaters of the Montreal River. That, as a matter of fact, the Montreal River at a short distance above its mouth, divides into two channels or branches, which fact appears not to have been then known to Congress, one of which is now known as the West Branch, that being the main channel, and the other now known as the East Branch, the same being a lesser channel, and at the head of said West Branch is what is now known as Island Lake and at the head of what is the East Branch is what is now known as Pine Lake, while Brule Lake is at the head of Brule River, the nearest head of the Menominee River to said lake at the head of the main channel of the Montreal River, and in the territory intervening between said Brule Lake and Island Lake are numerous other lakes, all of which, including said Island Lake, were then known as the Lakes of the Desert, and were described on a map prepared by David H. Burr, draughtsman to the House of Representatives of the United States, in 1836, for use in connection with the report upon

the said bills providing for the admission of Michigan into the Union and the creation of said territory of Wisconsin, as "Les Lac Vieux Desert."

That said map disclosed the fact that it had been learned that the course of said boundary was not a continuous water boundary, but it incorrectly represented the Montreal River as being but one stream with small laterals, rather than being divided into two considerable branches, and it incorrectly represented the numerous lakes by placing them in too close proximity to each other, and it indicated, by a heavy black line, the course of the proposed boundary from Lake Superior up the Montreal River, across, intervening the group of lakes, to the head of what is now called the Brule River and down the Brule and Menominee Rivers to Green Bay, leaving to the north of said heavy line a large lake at the head of the Ontonagon which, though incorrectly located on said map, takes the place of what is now known as Gogebic Lake at the head of the Ontonagon River and another lake, now known as Lake Brule, at the head of said Menominee River, and it locates a large lake apparently taking the place of what is now known as Lake of the Desert or Lac Vieux Desert to the north of said boundary line; said map being now preserved as a record in the Library of Congress reference whereto is hereby had for greater particularity in regard thereto, and a copy of that portion thereof covering the territory in question being hereto attached, marked Exhibit A and hereby made a part hereof.

6.

That by act approved June 12, 1838, Congress, in order that the said portion of said boundary between the State of Michigan and the territory of Wisconsin be correctly established, directed the boundary line to be,

"surveyed, marked and designated,"

agreeably to the boundary established by the act of June 15, 1836, that being the act to establish the north boun-

dary line of the state of Ohio and providing for the admission of the State of Michigan into the Union. The said act of June 12, 1838, also directed the making of a plat or plan of the boundary between the State of Michigan and the territory of Wisconsin (U. S. Statutes at Large, Vol. 5, page 435).

That by act approved July 20, 1840, the superintendence of the survey of said boundary was placed under the War Department and said department through its Bureau of Topographical Engineers placed said survey in charge of Captain Thomas Jefferson Cram.

That said Captain Cram made two trips in connection with said survey, the first of which was made in the summer of 1840 and the second in the summer of 1841. A detailed recital of the work done by said Captain Cram on his first said trip is found in Senate Document No. 151, 26th Congress, 2nd Session, reference whereto is hereby had for particulars in regard thereto.

Under date of July 30, 1840, instructions were given by the War Department to said Thomas Jefferson Cram for the carrying out of said survey and therein the boundary is quoted, in part, as

> "thence through the middle of the channel of the river Montreal, to the middle of the Lake of the Desert, thence in a direct line to the nearest head of the Menominee."

The said instructions also contained the following:

> "The line from the head of the Montreal River to the head of the Menominee must also of necessity be surveyed as it it an undetermined line without distinct physical characteristics.
>
> This line, it is said, must pass through Desert Lake. Recent information indicates the belief that there are several lakes between the head waters of those two rivers called Lakes of the Desert. They are so delineated and named on some maps of that

locality which I have examined. The survey, however, will give correct information on the subject."

In the said instructions is also found the following:

> "From the foregoing remarks you will require immediate surveys only of Green Bay and of the country between the head waters of the Montreal and the Menominee through which the line is to be traced * * * the first survey applies itself to the line between the head waters of the two rivers named."

By the said report of said Captain Cram's first trip in connection with said survey it appears that instead of following the course of the survey as outlined in the act of June 15, 1836, above referred to he attempted to follow the same in a reverse order of description, beginning at the mouth of the Menominee River of Green Bay and following up said stream, thence up the Brule River, a branch of the Menominee, to Brule Lake, and from there he surveyed a direct line to what is now known as Lac Vieux Desert, in the doing of which he met with many obstacles including opposition of the Indians who then as now have a village located on the north shore of said Lac Vieux Desert. His said report further shows (page 4), that from the wording of the boundary in the said act of Congress of June 15, 1836, he interpreted the understanding of Congress to have been:

1st. That Lake of the Desert referred to therein was the headwater of, and discharged itself into the Montreal River; 2nd. That somewhere in that country there was a known lake bearing the name "Lake of the Desert"; 3rd. That of all the headwaters discharging themselves into the Menominee River one would be found with a head nearer to said Lake of the Desert than any other, and in support of his said interpretations of the suppositions of Congress he recited that they:

> "were doubtless made by the Committee of Congress who drafted the description of the boundary, and

predicated on information derived from a map similar to one entitled 'map of the entire territories of Wisconsin and Iowa, published by order of the legislative assembly of Wisconsin, by L. Judson, and which was supposed to present a more correct delineation of the waters between Lake Superior and Green Bay than any other map extant.

An exact copy of as much of said map as is necessary for illustration is attached to this report and marked No. 1.

Upon this map it will be perceived that the boundary between Michigan and Wisconsin is laid down as following a direction from Lake Superior nearly southeast to Green Bay; and that the courses of the Montreal and Menominee Rivers if taken together, constitute a general route in the same direction; and that Lac Vieux Desert (Lake of the Desert) is not only represented on this map as being the head of the Montreal, but is likewise represented as the head of the Menominee.

Now, although the map from which No. 1 has been copied bears the high sanction of a legislative assembly, it is proven by the survey that that portion of this map upon which the boundary is laid down is exceedingly erroneous; and, therefore, if it be true that this map, or one similar to it, was taken as a guide in drafting the description of the boundary, it is not surprising that the said description, so far as it related to the headwaters of the Montreal and Menominee, is so worded that the conditions of the act defining the boundary can not be complied with, to the full extent of all the requirements contained in the act."

As is further shown by said report the survey was carried as far as the weather would permit for that season and that:

"The survey could not have been carried any further, on account of having reached a point, beyond which the description of the boundary ceased to be

in accordance with the physical character of the country.

It was ascertained that Lac Vieux Desert or 'Lake of the Desert' has no connection whatever with the Montreal River; that the nearest distance between said lake and this river is such, that an Indian requires eight days, without a pack, to pass from one to the other; and it is also believed with much confidence that the Montreal River does not head in a lake, but takes its rise in an extensive swamp. Neither is Lac Vieux Desert (Lake of the Desert) at all connected with the Menominee River; but the lake was found, contrary to the opinion of all except the Indians, to be the principal head of the Wisconsin River.

The Montreal was found to have a course different from what was supposed; so have the courses of the Menominee, and its principal branches, been equally mistaken and misrepresented.

Map No. 2 which is attached to this report, exhibits a more faithful delineation of the country between Lake Superior and Green Bay, along the route of the boundary, than any other map. * * * Still the map should only be regarded as approximate of the truth: that part of it, however, which represents the district between Lake Brule and Lac Vieux Desert and which was necessary to survey, is accurate; being made from minute surveys. The same degree of accuracy is to be attributed to the portion between the mouth of the Menominee and White Rapids, and to that portion immediately north of Green Bay, and to the portion representing Green Bay itself. The other parts of the map are made from reconnaissances and explorations of the grounds and from information derived from Indians, whose representations are entitled to confidence."

Maps Nos. 1 and 2 referred to in the report are a part of the said report preserved in the Library of Congress as Senate Documents No. 151, as above referred to, and

reference thereto is hereby had for particulars in regard thereto.

A copy of said map No. 1 referred to in said report as being similar to the map had by the Judiciary Committee in 1834, is hereto attached, made a part hereof and marked Exhibit B. A copy of said map No. 2 of said report, made by said Captain Cram in part from information derived from the Indians, is hereto attached and made a part of this bill of complaint and marked Exhibit C.

Said map No. 2 referred to as Exhibit C of this complaint shows the Montreal River taking a course very different from its true course and indicates that it swings from near its mouth far to the east of its true course and takes its rise in a large swamp located in territory to the northwest of the true location of Lake Gogebic; thus showing that Captain Cram received very erroneous information from the Indians as to the location of the Montreal River.

In said report said Captain Cram further states as his findings that:

> "From the course which the Montreal River is now found to have, and from the fact that the Lake of the Desert has no connection whatever with this river, it will be perceived that it will be impossible to run a line according to the meaning of the words in the description of the boundary 'thence through the middle of the channel of said river Montreal, to the middle of the Lake of the Desert.'
>
> It is true that the channel of the river might be followed to its very head and from this head a line could be run over the ground to the middle of the Lake of the Desert; but it is not presumable that such a random line was ever intended by Congress to constitute any portion of the boundary in question. It was undoubtedly supposed that the Lake of the Desert was at the head of the Montreal; and that a natural boundary would be found to be provided all

the way from the mouth of the Montreal to the middle of said lake; and that it would only be necessary to mark out a line from the middle of this lake to the nearest headwater of the Menominee River.

* * *

From the foregoing discussion of the route, it will now appear, that it would be exceedingly difficult, yea, utterly impossible, to run the boundary in complete accord with the present reading of the description in the act of Congress; particularly on that part of the ground between the Montreal River and the head of the Menominee (the Brule) which comes nearest to 'Lake of the Desert.' And from all the circumstances of the case, it is evident that another action of Congress will be required in relation to this boundary, to the end of defining it in such a manner that it can be established either upon the ground, or laid down on a map, with that degree of definiteness which should always characterize a boundary line between two states."

After reciting the impossibility of running the line in accordance with the said act of June 15, 1836, the report, among other things suggests (page 7):

"There is no doubt of Lac Vieux Desert (as written on the map and generally so-called) being the identical lake with that which seems to have been intended in the description of the boundary, and therein called 'Lake of the Desert,' and whose middle is made one point in the boundary. * * *

Lake Vieux Desert, now being known, might be brought into the boundary, by specifying some point within the periphery of the lake for one physical point in the boundary. All indefiniteness, much labor and expense, would be avoided by simply saying, in the law, that the highest point of ground (whether of earth or rock) upon middle island shall be the point, instead of saying 'middle of the lake.' It is also evident, that it should be specified how far up the Montreal the boundary shall extend before leav-

ing for Lac Vieux Desert. For example: the law might specify that the boundary, in ascending shall follow the extreme right-hand channel from the mouth of the river, up to where it shall be found to be intersected by a straight line drawn from the highest point of middle island to some specified point on Montreal River."

7.

Said report of said Captain Cram was a very erroneous misrepresentation of the actual conditions then existing. It appears that he had for reference the copy of the erroneous map that had been used by the Judiciary Committee of the Senate in 1834, exhibiting a supposed continuous water boundary and it does not appear that he knew of the map made by the draughtsmen of the House of Representatives, Exhibit A hereto attached, showing that there were numerous lakes known as Lakes of the Desert and he therefore concluded that the one lake referred to by him as Lac Vieux Desert and quoted as "Lake of the Desert" was the lake referred to in the description of the boundary in said act of June 15, 1836, as the Lake of the Desert connected with the main channel of the Montreal River as therein recited, which conclusion was erroneous and said report has remained misleading and is especially erroneous and misleading in the finding as a fact that the description of the boundary as recited in said act of June 15, 1836, was an "impossible line."

That as a matter of fact had the said survey been carried out in accordance with the provisions of said act directing the same, a survey of the main channel of the Montreal River would have brought the surveyor to what was then known as one of the Lakes of the Desert and what is now known as Island Lake, the same being located at the head of the west or main channel of the river Montreal. It would then have been only a matter of sufficient engineering to run a direct line from the center of that lake to the head of the Brule River as the nearest headwater of the Me-

nominee thereto, and thus that portion of the boundary reported by said Captain Cram to be impossible of locating would have been readily located and would not have included Lac Vieux Desert, referred to by him as an essential point in the boundary, as such an essential point, but would have left said Lac Vieux Desert several miles north of the true boundary line that should have been located as described in said act of June 15, 1836.

8.

That, ignoring the rights of sovereignty over the territory granted to Michigan by the Congress of the United States through the provisions of said acts of June 15, 1836, and January 26th, 1837, Captain Cram further in his said report suggested:

> "The center of the main channel 'of the Menominee river' is made a part of the boundary. The river contains numerous islands, and consequently more than one channel where these islands occur. It will be impossible in many of these cases to know which is the 'main channel' without minute surveys.
>
> * * *
>
> There are also a few islands in the Brule River to which similar questions might apply, in referring to the term 'main channel.'
>
> To avoid all ambiguity in reference to these channels, it might be specified in the act defining the boundary, that, in descending the stream, the boundary shall follow the extreme left-hand channel of the Brule and the extreme right-hand channel of the Menominee, down to a well known point in the river—say Pe-me-ne Falls; and thence to follow the extreme left-hand channel of the remainder of the Menominee to its mouth. Such a division would leave some of the islands in Michigan, and the remainder in Wisconsin, and would avoid much expense in minute surveys to ascertain the 'main channel,' and would leave no indefiniteness on this part of the boun-

dary. The free use of either channel for the purpose of navigation, would, from an established principle of law, be open at all times to the citizens of either state, and the islands would be nearly distributed in equal proportions between the two states."

Not only did such suggestions ignore the rights of Michigan pursuant to her grant of statehood, but they misrepresented the facts, for, as a matter of fact, practically all—all but one—of the prominent islands in the Menominee River are below Pemene Falls, so that such a division of the islands would have been grossly unequal and grossly prejudicial to Michigan, and aside from giving to Wisconsin all the islands in the Brule and practically all of the islands in the Menominee river it would have granted to Wisconsin all the islands in and near the harbor in the mouth of the Menominee River.

Said report of said Captain Cram, in treating of that portion of the Michigan boundary extending through the waters of Green Bay, contains the following:

"After descending the channel of the Menominee 'to the center of the most usual ship channel of Green Bay of Lake Michigan' the boundary is made to run 'thence through the center of the most usual ship channel of Green Bay, to the center of Lake Michigan.'

From map No. 4 which accompanies this report, it may be inferred that the islands which are in the eastern part of Green Bay would cause several ship channels. It is a well known fact to all who have any personal knowledge of the navigation of this Bay that there are at least two ship channels, which are in use by all classes and kind of craft that navigate the Great Lakes. It would be next to an impossibility to collect testimony that would be necessary to decide the question which of these is the 'most usual' ship channel of Green Bay and it is not easy to conceive any other mode (than by testimony) by which the most usual ship channel could be ascer-

tained. But suppose this method of collecting testimony practicable, it might occur that all the evidence that could be obtained on the subject would prove that one of these channels is just as much in use as the other; in which case it would only be shown that there is no such thing as the 'most usual ship channel' in this part of the Bay."

The report then suggests that the term "most usual ship channel" might be interpreted "the best ship channel" in which case it would be necessary to make a complete hydrographic survey of all the channels that exist in that portion of Green Bay east of the mouth of the Menominee River, in order to determine the best ship channel, and it ends with a complete description of a suggested boundary from Lake Superior to Lake Michigan, varying in many respects from the act granting statehood to Michigan, and the report contained no location of the main channel of the Menominee River nor of the most usual ship channel of Green Bay as called for by the act providing for the making of such survey. Said report containing said various and serious misrepresentation of conditions and said various and serious suggestions of changes in the boundary contrary to the rights of Michigan was made a part of Senate Document No. 151 of the 26th Congress, 2nd Session, and has remained of record in the Library of Congress without correction as to said misrepresentations and has been misleading in transactions that thereafter occurred regarding the said several portions of said boundary.

That following the said report by said Captain Cram of his work and relying on the representations made in said report as to the impossibility of locating said boundary in accordance with the provisions of said act of Congress of June 15, 1836, the general assembly of Michigan passed a joint resolution reciting:

"Whereas a critical examination of the topography of the country through which the boundary line between this state and the territory of Wisconsin must pass, appears to render a strict and literal conform-

ity with the directions contained in the act of Congress establishing the same impossible: and, whereas, the general intent of said act, it is presumed, can be attained without much difficulty; if said line be immediately marked and described, therefore,

Be it resolved by the Senate and House of Representatives of the State of Michigan that the Congress of the United States be, and they are hereby earnestly solicited to cause the line in question to be surveyed and marked; and that, simultaneously with the survey, a commissioner be appointed by the general government to act, conjointly with the commissioner to be appointed by this state, and who by their concurrent action, shall so establish the boundary in question, if practicable, as shall be in conformity with the manifest general intent of the act of Congress."

Provision was also made by the said general assembly of Michigan for the appointment by the Governor of such commissioner in behalf of the state, and for the presentation of the resolutions to Congress, and the said resolutions were duly presented to Congress. Senate Document, page 186, 26th Congress, 2nd Session, Vol. 4, 1840-1841.

The said resolutions were by the said Senate laid on the table and ordered to be printed but no arrangement was made by Congress for a joint commission to act in accordance with the request of said resolutions.

10.

In an appropriation bill under date of March 3, 1841, Congress provided, by Section 3, in regard to the said survey of said boundary, as follows:

"That for the purpose of designating and marking the boundary line between the State of Michigan and the territory of Wisconsin agreeably to the true intent and meaning of the second section of the act entitled: 'An Act to establish the northern boundary

line of the State of Ohio, and to provide for the admission of Michigan into the Union, upon the conditions therein expressed,' there be, and is hereby appropriated, the sum of six thousand dollars, to be expended under the Secretary of War, in the survey and examination of the country situated between the mouths of the Menominee and Montreal Rivers, who is hereby directed to cause to be made a plat or plan of such survey and examination, which shall be returned to Congress with all convenient dispatch."

11.

That since said report of said Captain Cram that the said line so described in said act of June 15, 1836, was an impossible line no attempt has been made to survey the same and the same has not been surveyed or marked other than a very small portion thereof near the mouth of said Montreal river, but that, during the year 1841, said Captain Cram, pursuant to said last mentioned act of Congress, made a second surveying expedition regarding said matter and his report of that season's work is included in Senate Document No. 170, 27th Congress, 2nd Session, and is hereby referred to and hereby made a part hereof for the particulars in regard thereto. That by said report which bears date at Racine, Wisconsin Territory, February 10, 1842, said Captain Cram quotes from his instructions as follows:

"Your operations should have in view a correct delineation of the country between the headwaters of the Menominee and Montreal Rivers, so that all the matters requisite to determine a boundary between these two points can be laid before Congress. A correct survey of these two rivers should also be made, which will probably be the extent of your operations for this year."

Captain Cram then recites in his report as regarding the operations of the previous season:

"The conclusion was drawn, that there was not to be found existing in nature any continuous natural boundary—as had been supposed in the act of Congress defining the boundary—between the headwaters of the Menominee and Montreal Rivers, and therefore, it became necessary to make a delineation of the country intervening between these headwaters, and along in the intended direction of the route of this boundary."

Said report continues:

"Accordingly the survey of this intervening district was commenced at Lac Vieux Desert (see map No. 1), the place where the operations stopped in the autumn of 1840, and was extended in the direction as nearly as could conveniently be ascertained, toward the headwaters of the Montreal."

The report then shows the arrival of the surveying party at the Ontonagon River and the following of that river to its mouth supposing it to be the Montreal, but returning and continuing the survey westward, discovered:

"That Lac Vieux Desert was the head of the Wisconsin, which was known to run towards the south, instead of being, as was formerly supposed and represented on the maps, the head of the Montreal."

The report further continues:

"Map No. 1 exhibits the headwaters of the Montreal as they were subsequently found, and during the progress of our survey. The point designated 'astronomical station No. 2' is the head proper of the Montreal river of Lake Superior and is the junction of two inconsiderable streams, not more than twenty or thirty feet wide, called Balsam and Pine Rivers. The latter of these streams was explored to its very head and found to come from a small lake, and all its feeders are represented on the map (No. 1).

This small lake was connected by an offset line with the main line of survey: so that if Congress should deem it necessary or expedient to constitute this little lake, which I have called Pine Lake, as the head of the Montreal River, its position will be accurately known."

That said report of said Captain Cram as the same so appears in said Senate Document No. 170, makes mention of several maps as parts thereof but the individual maps referred to are not attached but are said to be compiled into one general map No. 6 which is made a part of and attached ~~marked Exhibit D and hereby made a part here-~~ ~~Congress~~ in connection with said document No. 170, a copy of which said map No. 6 of said second report is hereto attached marked Exhibitd D and hereby made a part hereof, and by said map said Montreal River is shown as one stream with several small branches, forked near its head into two branches which Captain Cram designates in his report as the Balsam and Pine Rivers with Pine Lake at the head of said Pine River. That the said fork so-called by said Captain Cram, Pine River is now known as a portion of and is the head of the east branch of the Montreal River with Pine Lake at its head and the fork of said stream referred to by Captain Cram as the Balsam is the small stream known as Lehman's Creek, at the junction of which creek with the said east branch of the Montreal is the station so set by said Captain Cram as "Astronomical Station No. 2," which was named by him in his said report as the head proper of the Montreal River of Lake Superior, though in no sense does it meet the description of the boundary in said Michigan act wherein said boundary is made to follow the center of the main channel of said Montreal River to a lake, and it is not such a geographic point as is described in said boundary and such naming of said point as the head of the Montreal River was an arbitrary act on the part of said Captain Cram wholly uncalled for and it was not pretended, even, that the same was a point in the boundary as found in the Michigan statehood act.

The said stream shown on the said last mentioned map is in reality the east or lesser branch of the Montreal River and the point so marked by Captain Cram as the head proper of said stream is more than six miles north and down stream from the lake now known as Pine Lake, at the head of said east branch.

The west branch is claimed by Michigan to be the main channel of the Montreal River and is not mentioned by said Captain Cram on said map No. 6, nor in the report to which said map is attached, and the said survey so then made by said Captain Cram does not purport to have been carried to the main channel of the said Montreal River except as the main channel was reached by following down the east branch, so that the east branch of the Montreal, and the main channel of the Montreal below the mouth of the east branch were surveyed and mapped as the Montreal River, ignoring the main channel as found in the west branch of said Montreal River, from the junction of the east and west branches of said river southerly to the lake now known as Island Lake, and thus the said survey did not meet the requirements of said last mentioned act of Congress providing for a survey of that entire territory between the mouth of the River Montreal and the mouth of the River Menomine.

In his said second report said Captain Cram also states:

> "The country was examined laterally to the main line, and is shown by the dotted lines on the map: and it may be said there is no direction that can be followed from an assumed point as a center which will not lead into a series of small lakes in this part of the country. These little lakes, so beautifully diversified in size, shape and scenery, are but the limpid springs which form the summit reservoirs that nature seems to have furnished with admirable foresight for a never failing supply for the Chippewa, the Wisconsin, the Menominee, the Ontonagon, and several smaller streams such as the Montreal, the Carp, the Iron, etc. * * *

The length of the surveyed line from the head of the Montreal (Astronomical Station No. 2) to eastern extremity of Trout Lake (Astronomical Station No. 3) is forty-three miles, 3,188 feet.

The length of the setoff line to the lake heading Pine River is 6 miles, 1,161 feet.

The length of the line from Trout Lake (Astronomical Station No. 3) to Lac Vieux Desert (Astronomical Station No. 4), is 35 miles, 2,987 feet.

The length of the surveyed line from Lac Vieux Desert (Astronomical Station No. 4) to extremity of base line at Lake Brule is 15 miles, 143 feet.

The whole length of the surveyed line from the head of the Montreal to the head of the Brule, therefore, becomes 100 miles, 2,199 feet.

A straight line from the middle of Lac Vieux Desert to the nearest branch (the Brule) of the Menominee, would make an angle with a straight line from said middle to the head of the Montreal; and it must be acknowledged that a line with such an elbow would make an awkward boundary between two states.

As there is no natural boundary to be had between the headwaters of these two rivers—the Menominee and the Montreal—it would seem that a straight line from the headwaters of one to those of the other, would be much preferable to an indirect line, composed of two which would make an angle with each other.

To complete the boundary, however, either a direct or indirect line, as Congress may see fit to designate, will have to be run and marked out on the ground, for at least sixty miles if the direct line be adopted, and for more than that distance if the angular route be insisted on. I say insisted on, for the present law makes 'the middle of Lac Vieux Desert' a point in the boundary.

A direct line from the head of the Brule River (Lac Brule) to the head proper of the Montreal (Astronomical Station No. 2) will have an approx-

imate bearing of north 76 degrees west, and its total length will be in the neighborhood of 60 miles.

The running and marking of such a line, oblique to the meridian, might be easily accomplished by an application of the principles of practical astronomy which are so well known as to need no description here."

In his said report Captain Cram says of the Montreal River:

"This river was surveyed from its mouth up to its highest source, and is represented on may No. 4, from which it will be perceived that streams feeding the river almost all come from the west. Indeed there are none entering from east that can be considered more than small springs—brooks, or drains from swamps. None of these are so broad that they can not be stepped across without wetting a foot.

The tributaries from the west generally head in small lakes, and on reaching the Montreal are deflected towards the north by dividing ridges separating the Montreal from the headwaters of the other rivers running into Lake Superior, such as the Carp, the Iron, and the Ontonagon.

The head proper of the Montreal is to be regarded, as before stated, at the junction of the Balsam and Pine. At this point, in times of high water, a canoe may be put in and safely run to the mouth by making several portages."

It thus appears by the said second report that said Captain Cram did make a detailed report and map of the easterly branch, that being the minor channel of the Montreal river and he designated its head proper at a point more than six miles south of its real head in Pine Lake. He did not make a detailed survey of the west branch or main channel of said Montreal River and did not show Island Lake which is a lake of considerable size at the head thereof and which was then known as one of the Lakes of the Desert. Neither does his report purport to mark

the boundary as designated in the said act granting statehood to Michigan.

In his said second report, he speaks of his survey of the Menominee and Brule Rivers and in regard thereto, among other things, says:

> "The Brule is the principal tributary of the Menominee, and is that branch which was contemplated in the law as coming nearest 'Lac Vieux Desert.'"

He gives the length of the Brule as 54 miles, 950 feet, and of the Menominee from the Brule to White Rapids as 62 miles, and from White Rapids to its entrance into Green Bay as 60 miles.

He says:

> "The Brule and Menominee constitute a very good natural boundary; the precaution, however, should be taken of dividing the numerous islands, so that some may fall within one, and the remainder within the other state. The number of islands in the Menominee amount to 131; 18 of the principal ones contain 2,304 acres; some of these are over one mile in length and from one-eighth to one-fourth of a mile in breadth and are covered with an excellent growth of Pine.
>
> Innumerable channels occur among the groups of islands, and the best way of disposing of the islands, would be, to declare, by legislative amendment, that all the islands down to a certain point (to be specified) shall belong to Michigan, and all below that point to Wisconsin. A case of litigation has already commenced, I am informed, in reference to one of these islands, and the court has been at a loss to decide, from not knowing to whose jurisdiction it belongs."

In his said report he also states that the five maps referred to in the report are all consolidated into map No. 6 which accompanies the report.

Regarding the boundary line through Green Bay, in his said second report he says:

> "It only remains necessary to make the survey of the channels of Green Bay, and of the lower part of the Menominee River. Then, and not until these surveys shall have been completed, will the survey be finished, to leave nothing more to be desired.
>
> This labor, together with the running and marking of a line, to be designated, between the headwaters of the Menominee and the Montreal, may be accomplished in another season, by means of an appropriation of seven thousand dollars provided the appropriation be made so the party can be early on the way to that remote region, and no obstacles be experienced from the Indians in that quarter."

Thus by said Captain Cram's second report he left the main channel of the Menominee unestablished and the most usual ship channel of Green Bay unestablished and undesignated and the same has never been established or designated in accordance with the direction found in the act of Congress providing for a survey of the boundary as described in the Michigan Statehood Act.

10.

December 14, 1842, a bill was introduced into the U. S. Senate (No. 9, 27th Congress, 3rd Session) to amend the bill providing for the admission of Michigan into the Union and with a change in the northwestern boundary so as to make the same read substantially in accordance with the present claimed boundary of the State of Wisconsin, which said bill contained a proviso as follows:

> "That the adjustment of boundary as fixed in this act shall not be binding on Congress, unless the same shall be ratified by the State of Michigan on or before the.....day of.....,1847."

Said bill failed of passage in the House and was reintroduced as Senate Bill No. 6, December 15, 1843, in the 28th Congress, 1st Session and again failed to become a law.

11.

August 6, 1846, Congress passed an act authorizing the people of the territory of Wisconsin to form a state government (U. S. Stat. at Large, Vol. 9, page 7), and therein the boundaries of the proposed state of Wisconsin so far as they are involved in the issues in this case were described and conditioned, in part, as follows:

"Beginning at the northeast corner of the state of Illinois, that is to say, at a point in the center of Lake Michigan, where the line of 42 degrees and 30 minutes of north latitude crosses the same; thence running with the boundary line of the State of Michigan through Lake Michigan, Green Bay, to the mouth of the Menominee River; thence up the channel of said river to the Brule River; thence along the last mentioned river to Lake Brule, thence along the southern shore of Lake Brule in a direct line to the center of the channel between Middle and South Islands, in the Lake of the Desert; thence in a direct line to the headwaters of the Montreal River, as marked upon the survey made by Captain Cram; thence down the main channel of the Montreal River to the middle of Lake Superior.

To prevent all disputes in reference to the jurisdiction of the islands in said Brule and Menominee Rivers, the line be so run as to include within the jurisdiction of Michigan all the islands in the Brule and Menominee Rivers (to the extent to which said rivers are adopted as a boundary) down to and inclusive of the Quinnesec Falls of the Menominee; and from thence the line shall be so run as to include within the jurisdiction of Wisconsin, all the islands in the Menominee River from the Falls aforesaid, down to the junction of said river with Green Bay:

That the adjustment of boundary as fixed by this act between Wisconsin and Michigan shall not be binding on Congress unless the same shall be ratified by the State of Michigan on or before the 1st day of June, 1848."

12.

Michigan did not ratify said proposed boundary, as in the last paragraph set forth, within the time specified therefor, or at any other time, and said boundary materially conflicted with the Michigan boundary described in the prior grant to Michigan through the said act of June 15, 1836.

The description of said boundary in said Wisconsin Act included in the then proposed State of Wisconsin a large number of very valuable islands on the Michigan side of the main channel of the Menominee river that had theretofore been granted by the United States to the State of Michigan through the said Michigan Statehood Act of June 15, 1836, and said proposed Wisconsin boundary also included within the then proposed State of Wisconsin a very large amount of territory between Lake Brule, at the head of the Brule River, and the west branch of the Montreal River that had theretofore been granted by said Michigan Statehood Act to said State of Michigan. It is the claim of Michigan that said boundary as described in said Wisconsin Statehood Act, as last described, never became effective to grant any portion of that territory within the boundaries as described in the said Michigan act because the condition of said Wisconsin Act was never complied with; Michigan never ratified the same, and Congress had no power or authority to grant the same to Wisconsin, and therefore Wisconsin has never received any grant of the territory involved in the issues in this case.

13.

August 10, 1846, only four days after the passage of said Wisconsin Enabling Act with its said proviso making its boundary conditional on the ratification thereof by Michigan, Congress included in its general appropriation Act (U. S. Stat. at Large, Vol. 9, page 85) a provision (page 87), as follows:

> "Sec. 4. And be it further enacted that the surveyor general northwest to the Ohio under the direction of the President, be, and hereby is required to cause to be surveyed, marked and designated, so much of the line between Michigan and Wisconsin as lies between the source of the Brule River and the source of the Montreal River as defined by the 'Act to Enable the People of Wisconsin territory to form a constitution and state government, and for the admission of such state into the Union, and the expense of such survey shall be paid, upon the certificate of the Surveyor General, out of any moneys in the treasury not otherwise appropriated, not exceeding one thousand dollars.' "

Pursuant to this appropriation the survey known as the Burt survey was made, surveying and marking the line run by Captain Cram from Lac Vieux Desert to the point marked on the Cram survey, as head of the Montreal River, but not to the lake at the head of either branch of the Montreal River and not to the west branch thereof.

May 29, 1848, while said Wisconsin boundary was remaining conditional and within the period allowed for the ratification thereof by Michigan, Congress passed an act admitting Wisconsin into the Union (U. S. Stat. at Large, Vol. 9, page 233) and therein recited, with

> "the boundaries prescribed by the Act of Congress approved August 6, 1846,"

and designating said Wisconsin Enabling Act.

Therefore Wisconsin was admitted with her claimed boundaries along the northwestern boundary of Michigan conditional upon the ratification thereof by Michigan and said condition never has been removed.

14.

That there is no conflict in the said boundaries as described in the statehood acts of the two states so far as the boundary line through the waters of Green Bay is concerned because the Wisconsin act makes said boundary follow the boundary of Michigan, but that, nevertheless, the State of Wisconsin has possessed itself of and exercised sovereignty over a large part of the waters of Green Bay that are within the grant to the State of Michigan and over numerous islands of said Green Bay within said grant to the State of Michigan, including Washington Island with a territory of about 15,000 acres or more, Chambers Island with a territory of over 3,000 acres, Plum Island, Strawberry Islands and numerous other valuable islands.

That the said proposed boundary of Wisconsin, except for the condition therein provided, did include in the State of Wisconsin a very large number of islands in the Menominee River that are within the grant to Michigan and a very large territory between the Brule Lake and the main channel of the Montreal River that are within the grant to Michigan, and the State of Wisconsin has taken possession thereof and claims sovereignty over the same and has excluded and continues to exclude the State of Michigan from her rights thereto.

15.

That for nearly fifty years after the said admission of the State of Wisconsin into the Union the territory, through which all that portion of said boundary above Lake Brule is located, remained wild and practically unknown to civilization, and the details of the geography thereof were un-

known to the officials of the State of Michigan. The misrepresentations contained in the said reports of Captain Cram as above set forth remained of record and misleading in regard to various features of said boundary and especially to the effect that Lac Vieux Desert, as the same is now known, is the Lake of the Desert named in the said Michigan Statehood Act of June 15, 1836, as connected with the main channel of the Montreal River and an essential point in the boundary. That in those conditions, and with such lack of correct knowledge as to the situation and with Captain Cram's erroneous report to the effect that the boundary as described in the Michigan act was an impossible line, further proceedings were had in regard to said boundary by the State of Michigan as hereinafter set forth.

In the year 1850 the State of Michigan adopted a new constitution and therein the boundaries of the state were described, in part, after tracing the same into Lake Superior, as follows:

> "To the mouth of the Montreal River; thence through the middle of the main channel of said River Montreal to the headwaters thereof; thence in a direct line to the center of the channel between Middle and South Islands in Lake of the Desert; thence in a direct line to the southern shore of Lake Brule; thence along said southern shore and down the River Brule to the main channel of the Menominee River; thence down the center of the main channel of the same to the center of the most usual ship channel of Green Bay of Lake Michigan; thence through the center of the most usual ship channel of the said Bay to the middle of Lake Michigan."

And in this connection this complainant charges and alleges that by said description in said last mentioned constitution the said State of Michigan reaffirmed its claim through its grant to all the territory on the Michigan side of the main channel, that being the west branch, of the Montreal River to its headwaters, that being Island Lake, but that from there the line was diverted from the proper

line, which should have run to the head of the Brule River, to the point named in Lac Vieux Desert, or Lake of the Desert, as there mentioned, because said report of said Captain Cram had asserted that said Lake was the lake referred to in the description of the boundary in the Michigan act and was an essential point in the boundary, and the geography of the country was not sufficiently known to inform the members of the Constitutional Convention, or the people of Michigan, otherwise.

That furthermore, by said constitution, the State of Michigan, although it did not then know as to the relative location of the islands and the channels of the Menominee River or the islands and the most usual ship channel of Green Bay, and did not then know that Wisconsin was exercising any claims to, or possession of or sovereignty over any of the Michigan territory along said boundary line through said Menominee River and Green Bay, reasserted its said boundaries through said Brule and Menominee Rivers and through said Green Bay in accordance with the description thereof in said act of June 15, 1836.

In 1867 Michigan had another Constitutional Convention which formulated a constitution that was thereafter submitted to the electors of Michigan but was defeated. In that proposed constitution the description of the said boundary, in some respects, more nearly followed the boundary as described in the Wisconsin act, and was as follows:

> * * * "to the mouth of the Montreal River, thence through the middle of the main channel of said Montreal River to the headwaters thereof, as marked upon the survey made by Captain Cram, by authority of the United States; thence in a direct line to the center of the channel between Middle and South Islands in Lake of the Desert; thence in a direct line to the southern shore of Lake Brule; thence along said southern shore and down the Brule River to the main channel of the Menominee River; thence down the center of the same to the center of the most usual ship channel of the Green Bay of Lake Mich-

igan; thence through the center of the most usual ship channel of said Bay to the middle of Lake Michigan."

By the proceedings of said convention it appears and this complainant alleges as a fact that it was not then known to the members of said convention that any mistake had been made by said Captain Cram in his said report and it was not then known that there was really any discrepancy between the line of boundary as described in the said Wisconsin Statehood Act and that described in said Michigan Statehood Act, and it was argued by members of the convention that there probably was none and that it was important to have the question of the line settled, while on the other hand there were arguments that if there were any mistakes regarding said boundary, by the adoption of the proposed description in the proposed constitution, valuable rights of Michigan might be forfeited, and, although said constitution was submitted to the people, the people refused to adopt the same and thereby refused to adopt the boundary line as described in the Wisconsin act.

About the year 1885, with a party of private explorers, one George H. Cannon, an engineer, went into the wild region of the Montreal River on a private mission, and there discovered that the west branch of the Montreal River was the main channel and that the east branch, a minor channel, had been surveyed and reported by Captain Cram as the boundary. As time afforded, said Cannon made a study of the matter and finally some years later brought the same to the attention of Hon. Peter White, then a prominent citizen of Marquette, Michigan, who, in turn, brought the same to the attention of the Attorney General of the state in or shortly prior to the year 1907 when the state, through its officers, for the first time, learned that that part of the boundary along the Montreal River and from there to Lake Brule had been improperly located, and had not been located in accordance with or agreeably to the provisions of the said Michigan Statehood Act of June 15, 1836.

February 28, 1907, the Michigan Legislature adopted a joint resolution providing for the appointment by the Governor of a resident of Michigan to present the matter to the Legislature of Wisconsin with a view to the settlement of the boundary through a joint commission.

Said Hon. Peter White was appointed to act for Michigan in that regard and through correspondence and by a personal visit to the Governor and to the Committee of the Legislature of Wisconsin said White attempted to secure an amicable adjustment between the two states as to the said boundary but he was met with a refusal on the part of Wisconsin to join in any attempt at such adjustment of said boundary line. Mr. White duly reported to the Michigan Legislature the result of his mission and, May 29, 1907, that Legislature passed a concurrent resolution (House Resolution No. 71) directing the Attorney General to cause a survey to be made, and to institute the necessary proceedings in the courts, or otherwise, "to secure a determination of the correct boundary line between the State of Michigan and the State of Wisconsin."

Investigation was started by the then Attorney General and an engineer was employed to make some investigations but no survey was made, and this complainant alleges that said investigation was not then completed and no report was filed as to the proceedings had by said then Attorney General (whose term of office expired before the investigation could be fully completed).

16.

That in 1908, Michigan adopted a new constitution and therein set forth that portion of her boundary now in question, in words as follows:

> * * * "to the mouth of the Montreal River; thence through the middle of the main channel of the westerly branch of the Montreal River to Island Lake, the headwaters thereof; thence in a direct line to the

center of the channel between Middle and South Islands in the Lake of the Desert; thence in a direct line to the southern shore of Lake Brule, thence along said southern shore and down the River Brule to the main channel of the Menominee river; thence down the center of the main channel of the same to the center of the most usual ship channel of Green Bay of Lake Michigan; thence through the center of the most usual ship channel of said Bay to the middle of Lake Michigan."

This constitution took effect January 1, 1909, and this complainant says that by it the State of Michigan emphatically reasserted its claim to the center of the main channel through the West branch of the Montreal River as its boundary, and its claim to the center of the main channel of the Menominee River and to the center of the most usual ship channel of Green Bay.

This complainant further alleges and charges the fact to be that by said constitution the said boundary line was allowed to deviate from the real boundary of Michigan as described in the grant through the Michigan Statehood Act, because it was still believed, as a result of Captain Cram's said first report, that Lac Vieux Desert, called Lake of the Desert, in said last mentioned constitutional description, was the lake intended by Congress to form a point in the boundary and was therefore an essential point in such boundary, and it was not known to the members of said Constitutional Convention or to the officers of the State of Michigan, nor generally to the people of the State of Michigan, that at the time of the admission of Michigan into the Union there were a large number of Lakes of the Desert, and they were misled in the description of said boundary and named the point between Middle and South Islands in said Lake of the Desert as a point in said boundary because of said misrepresentations contained in said report of said Captain Cram and in the belief occasioned thereby that said Lake of the Desert there referred to was the Lake of the Desert designated in the boundary as described in the Michigan grant of statehood.

17.

The State of Wisconsin, through her constitution of 1848 asserts the description of the portion of her boundaries in question in this action, as follows:

> * * * "beginning at the northeast corner of the State of Illinois, that is to say, at a point in the center of Lake Michigan, where the line of 42 degrees and 30 minutes of north latitude crosses the same; thence running with the boundary line of the State of Michigan through Lake Michigan, Green Bay, to the mouth of the Menominee River; thence up the main channel of said river to the Brule River; thence up said last mentioned river to Lake Brule; thence along the south shore of Lake Brule in a direct line to the center of the channel between Middle and South Islands, in the Lake of the Desert; thence in a direct line to the head waters of the Montreal River, as marked upon the survey made by Captain Cram; thence down the main channel of the Montreal River to the middle of Lake Superior;" * * *

18.

That the Constitution of 1848 of the State of Wisconsin with boundary as above described is now in force, and the Constitution of 1908 of the State of Michigan is now in force with the boundary as above described therein asserted and claimed.

That the boundary as in said Wisconsin Constitution described is in serious conflict with the boundary as in the Michigan Constitution described and by its said constitution Wisconsin claims large tracts of lands that are within the boundary as in said Michigan Constitution described and they are also within the boundary as described in the Act of June 15, 1836, and the grant of statehood to Michigan.

19.

That the disputed portion of said boundary is practically divided, by virtue of the variance in said disputed claims, into three sections; the first may be termed the Montreal River section and covers that portion of the boundary from the point of the junction of the west and east branches of the Montreal River to the head of Brule River; the second section is that portion of said boundary from the head of Brule River to the mouth of the Menominee River and may be called the Menominee River section; the third division of said boundary is that portion thereof extending through the waters of Green Bay and may be called the Green Bay section.

As to the first section it is the claim of Michigan that the boundary according to its grant and as it exists and should be established runs up the middle of the main channel, that being the west branch, of the Montreal River to the center of Island Lake at the head of said Montreal River, thence in a direct line to the head of the Brule River as the nearest headwater of the Menominee. It is the claim of the State of Wisconsin that the said boundary runs up the center of the main channel of the Montreal River to a point where the same forks into the east and west branches of said Montreal River and then follows the main channel of the east branch of said Montreal River to a point marked on the map by Captain Cram as the head and in his report designated as the head proper of the Montreal River, that being a joint where said east branch of the Montreal River forks into two branches as reported by Captain Cram, those two branches being called the Balsam and Pine, but that point now being designated as the point where Lehman's Creek enters the east branch of the Montreal. Lehman's Creek, now so-called, being the same stream which Captain Cram called the Balsam, and the point so designated by Captain Cram (Astronomical Station No. 2) as the head of the Montreal River is 6 miles 1,161 feet down stream or north from Pine Lake which is a lake at the head of said east branch of the Montreal and would be the lake desig-

nated in the boundary as described in the said Michigan Statehood Act if the east branch of the Montreal River was the main channel thereof. From said point so marked by said Captain Cram as the head proper of the Montreal River, it is the claim of Wisconsin that the boundary runs in a direct line to the center of the channel between Middle and South Islands in Lac Vieux Desert and called in the Wisconsin Constitution "Lake of the Desert" and from there in a direct line to Lake Brule, the headwaters of Brule River.

The difference in said boundaries in said Montreal River section aggregates approximately 235,000 acres of land some of which is of very great value as mineral lands and other portions of which are of very great value as agricultural and timber lands, the claimed value of which said lands in the disputed territory in said Montreal River section is in excess of ten million dollars.

20.

As to the Menominee River section, both states claim the Menominee and the Brule River as the boundary line, so that there is no dispute upon that point and the dispute there arises over the fact that Michigan claims the center of the main channel of each of those rivers as the boundary line and that all the islands on the Michigan side of such main channel belong to Michigan, while Wisconsin, through her grant of statehood, claims the channel to be so run as to give Michigan all the islands above Quiennesec Falls of the Menominee River, and Wisconsin all the islands below Quinnesec Falls of the Menominee River, while it is the claim of Michigan that practically all the important and valuable islands of the two rivers are below Quinnesec Falls, and a very large portion thereof are on the Michigan side of the channel.

One of the large islands in said Menominee river, below Quinnesec Falls, on the Michigan side of the main channel, claimed by Wisconsin, has an area of about 350 acres, and

is included in the government survey of each of the States of Michigan and Wisconsin. Many other important islands are included in the government survey of the State of Wisconsin, but are located on the Michigan side of the main channel of that river. Wisconsin, by her constitution, claims the main channel of the Menominee River as its boundary.

The location of the channel of said Menominee River is of very great importance, not only because it is essential to determine the limit of jurisdiction of each state upon said rivers, but many of said islands are valuable in connection with the development of water power and as regards assessment valuations, and at and near the mouth of said river the City of Menominee is located in Michigan, and the City of Marinette in Wisconsin, with interstate street and railway bridge connection, wherein and whereon the line of jurisdiction becomes often important.

21.

As to the Green Bay section of said boundary, there is no difference as to the description thereof in the grant of Michigan and Wisconsin, or in the constitutional claims of the respective states, but Wisconsin has asserted the claim to, and has taken possession of, and exercises dominion over several large, important islands, including Washington Island, Chambers Island, Strawberry Islands, and Plum Island, of a value amounting to several hundred thousand dollars, on the theory that the most usual ship channel of Green Bay runs West and North of said islands, while Michigan asserts and claims the right to jurisdiction and dominion of said islands because the most usual ship channel of Green Bay, June 15, 1836, when the Michigan grant of statehood was made, ran along the easterly shore of Green Bay from the fort and villages then located at the head of said Bay, East of said Chambers Island, and Strawberry Islands to Death's Door, the opening of said Green Bay into Lake Michigan, and then through said

Death's Door south of said Washington Island, Plum Island and various other islands now claimed by Wisconsin, to the said center of Lake Michigan. And Michigan claims that the said boundary as described in the Michigan Act, following down the center of the main channel of Menominee River to the center of the most usual ship channel of Green Bay ran practically in a projected course from the mouth of said river easterly to the said ship channel in the eastern portion of said Bay, thus leaving Chambers Island and Strawberry Islands on the Michigan side of said most usual ship channel of Green Bay and the said boundary should be established and marked in order that the jurisdiction of the respective states may be known and the properties of each thereof controlled accordingly.

22.

In 1919, the Legislature of Michigan by Act No. 15 of the Public Acts of its special session, provided for the appointment by the Governor of a commission to investigate the disputed boundary line between the states of Michigan and Wisconsin and to take action to have such line correctly established.

By virtue of said act the then Governor of Michigan appointed as such commission Hon. Sigurd Nelson, Hon. Michael H. Moriarty and Alvah L. Sawyer. Said commission was organized by the election of Sigurd Nelson, President, and Alvah L. Sawyer, Secretary, and promptly commenced and has constantly continued an investigation of the facts regarding said disputed boundary, including not only the documentary evidence to be had in regard thereto, but including also geographical features of the country through which said boundary passes, and interviews with witnesses as to the most usual ship channel of Green Bay in 1836, and has also conducted an investigation as to the law applicable to the case.

Said commission, after extensive investigation, and pursuant to the intent of said act by which it was created,

in January, 1921, addressed a communication to the Governor of Wisconsin with a view of securing, if possible, through a joint commission of the two states, a constitutional compact, permanently adjusting and fixing such boundary. Several communications were exchanged, followed, in May, 1921, by a conference held between the Secretary of said Michigan Commission with the Governor and executive counsel of the State of Wisconsin, at which conference the claims of Michigan, and its desire for an amicable adjustment of the boundary, were set forth, but regarding which the Governor of Wisconsin refused to assent, saying, in substance, as expressed by his said counsel.

> "Michigan has nothing which Wisconsin claims, and I am satisfied that no Commission which we would appoint would consent to give up any territory of which Wisconsin is possessed, and that the Legislature would not surrender any territory of which the state is possessed, unless compelled so to do by the court."

The Governor of Wisconsin, John J. Blaine, then declined to take any action in any way towards negotiating a settlement of the disputed boundary.

Said Commission then continued its investigation as to both facts and law, and in so doing has caused considerable engineering to be done in order to determine the fact as to whether the West branch of the Montreal River, and Island Lake at its head, are within the course of the boundary as described in the Michigan act, which said engineering confirms the claims of Michigan in regard thereto.

Said investigation has also resulted in the discovery by said Michigan Commission of various maps and documents, not having been earlier brought to the attention of the officials of Michigan and not within their knowledge, including the map above referred to as Exhibit A, showing that at the time of the admission of Michigan into the Union, the lakes at the heads of Montreal and Brule Rivers,

and of other rivers in that vicinity, were known to Congress as the Lakes of the Desert, but which said maps thereafter remained in the Library of Congress unknown to the officials of Michigan, and were apparently unknown to Captain Cram at the time he made his said surveys.

That through the said investigations by said Michigan Commission, the officials of the State of Michigan were first informed of the fact of the disputed territory included within the islands in Menominee River, and included within Washington Island, Chambers Island, Plum Island, Strawberry Islands, and other islands in Green Bay.

23.

Wisconsin has for many years disregarded the true and rightful boundary as described in the Act of Congress of June 15th, 1836, providing statehood for Michigan, and does now disregard same, and has for a long time past possessed and does now possess, and has asserted and does now assert, civil, criminal and political jurisdiction over those portions of the territory within the Michigan boundaries above described as the Montreal River section, the Menominee River section, and Green Bay section of the disputed territory, aggregating approximately 255,000 acres, including extensive and valuable mineral rights, water powers, and other water rights and privileges, and has unlawfully taxed and still continues to unlawfully tax said property, and the taxes assessed thereon have been paid and continues to be paid to the State of Wisconsin, while of right the State of Michigan is entitled to levy and collect taxes thereon.

That the State of Michigan has been prevented from levying and collecting taxes on said land, not only because of the possession and civil jurisdiction thereof exercised by the State of Wisconsin, but because the government surveys thereof, made by the officers and agents of the government of the United States, were, unlawfully and without warrant so made and recorded as to make it appear

are a part of the State of Wisconsin and they are
o made as to indicate a proper description thereof for
tion or other purposes within the State of Michigan,
ithstanding the fact that the Government of the United
es had, before the making of said surveys, granted said
itory to the State of Michigan and has never granted
same to the State of Wisconsin.

that connection, and by way of explanation of such
ys as have occurred, the complainant further shows
asserts that the officials of the United States Govern-
t were misled by the said report of said Captain Cram,
, as a consequence have impeded and discouraged in-
tigations regarding said boundary attempted to be made
interested citizens of Michigan, and have made repre-
tations to the effect that said boundary had been settled
Congress. As an instance thereof, this complainant
ws that under date of March 17th, 1904, in answer to an
uiry made by Russel A. Alger as to the letter of in-
uctions to Captain Cram regarding said survey, A. Mc-
nzie, signing his name as "Brig. Gen. Chief of En-
neers, United States Army," wrote, after criticising
r. Cannon for his complaints regarding the work of Cap-
n Cram, as follows:

"A perusal of these documents will show that Captain Cram found it impossible to lay down a line as called for by the Act of June 15, 1836; that in order to present the situation for the assistance of Congress in the further legislation necessary to define the line, he explored, surveyed and mapped hundreds of miles of the region, then a wilderness inhabited by Indians suspicious of his operations, and whom he found it necessary to pacify; that he made suggestions for the solution of the difficulty which were largely adopted by Congress, in its further definition of the boundary, found in the Act of August 6, 1846; and that portion of the line established by Mr. Burt was only that section, about 64 miles in length, which Captain Cram had reported as requiring further definition, and which Congress did define in the Act of

August 6, 1846, prescribing that it would be run to a point 'as marked upon the survey of Captain Cram.' "

This complainant submits that the foregoing referred to letter regarding this matter not only illustrates the difficulties with which people of Michigan have had to contend in making investigations, but also fairly illustrates the fact that the erroneous reports of Captain Cram have had the effect of misleading not only the people of the State of Michigan and their representatives, but the officials of the United States Government as to the true facts regarding said boundary line.

24.

The Legislature of the State of Michigan, by Act number 30 of the Public Acts of the First Extra Session of 1921, authorized the Attorney General of the State of Michigan to bring an action to have said disputed boundary line established and marked. That, as said above, the officials of the State of Wisconsin have refused to join the duly constituted representatives of the State of Michigan in an attempt to make an amicable adjustment of said disputes regarding said boundary.

Wherefore, being without remedy except by an original proceeding in this honorable court, wherein matters of this nature are only cognizable and relievable, and, to the end that the State of Wisconsin may full, true, direct and perfect answer make, to all and several the matters and things hereinbefore set forth (but not under oath, answer under oath being hereby expressly waived) as fully and particularly as if the same were here repeated and the defendant distinctly interrogated in regard thereto; and

(a) That the said boundary line may be decreed to be and may be established in accordance with the description thereof as contained in the act of Congress of June 15th, 1836, entitled

"An Act to Establish the Northern Boundary line of the State of Ohio, and to provide for the Admission of the State of Michigan into the Union, upon the Conditions therein Expressed."

(b) That the said line in the last paragraph referred to be decreed to run from the mouth of the Montreal River at Lake Superior, up the middle of the main channel of said River Montreal to the point where said river forks into two channels now known respectively as the West and East branches thereof, thence up the middle of the main channel of said West Branch of said River Montreal to the center of the Lake at the head thereof now called Island Lake, thence in a direct course to the head of the Brule River, that being the point where Lake Brule finds its outlet through Brule River, thence down the center of the main channel of the Brule River as said channel existed June 15th, 1836, to the main channel of the Menominee River, thence down the center of the main channel of said Menominee River to the point where said last river enters the waters of Green Bay, thence projected easterly, north of Green and Hat Islands and south of Chambers and Strawberry Islands in Green Bay to the ship channel in Green Bay as, on June 15th, 1836, such channel was used, from the head of said Green Bay along the easterly shore thereof, northerly, between said shore on the east, and Chambers and Strawberry Islands on the west, to and thence through and along the center of the channel known as Port du Mort, or Deaths Door, south of Washington, Plum and Long Islands, into Lake Michigan and to the center thereof.

(c) That by such decree suitable provision may be made for locating and marking said line so that the same may be readily known and recognized.

(d) That proper provision may be made so as to have the surveys of said disputed territory properly connected up with and recorded as a part of the territory of the State of Michigan.

(e) That the State of Wisconsin and all state and municipal officers and agents therein may be decreed to surrender to the State of Michigan, its officers and agents, full and complete possession of all said disputed territory, and may be enjoined from further, in any way or manner, exercising jurisdiction thereof or thereover, and

(f) That this complainant may have such other and such further relief in the premises as may be equitable and as to the court shall seem proper:

May it please the Court to grant to this complainant the most gracious writ of subpoena, to the said State of Wisconsin, and to the Honorable John J. Blaine, the now Governor thereof, and to the Honorable Herman L. Ekern, Attorney General of said State of Wisconsin, commanding them and each of them to be and appear in this Honorable Court on a day to be therein named, and to abide the orders and Judgment of the Court.

STATE OF MICHIGAN,
By ANDREW B. DOUGHERTY,
Attorney General.

ALVAH L. SAWYER,
Menominee, Michigan,
Special Counsel.

Explanation of Exhibits Referred to in, and Attached to Bill of Complaint.

Exhibit A is a part of a map entitled:

> "Map of the Territory of Wisconsin, by David H. Burr, Draughtsman to the House of Rep's—U. S.—1836, to accompany the Hon. Z. Casey's report."

This map purports to have been made at the time that the Michigan statehood bill was under consideration, and it shows the Montreal River in a single channel, with a lake at its head and a lake at the head of each, the Ontonagon, the Chippewa, the Wisconsin, and the Menominee Rivers, and an interior lake with no outlet but which was afterwards found to be at the head of the Wisconsin River, and is now called Lac Vieux Desert. This whole group of lakes is labelled on the map, "Les Lac Vieux Desert," thus meaning the Lakes of the Desert, and a heavy dark line is traced along the course of the Montreal River to the lake at its head, thence through the group of lakes south of the lake we now call "Lac Vieux Desert," to the lake at the head of the Menominee, which we now call the Brule Lake.

Exhibit B is a copy of a map attached to Captain Cram's first report of his attempted survey of the boundary in 1841, and is Map No. 1 of that report. It is entitled:

> "From a map of the entire territories of Wisconsin and Iowa, published by order of the Legislative Assembly of Wiskonsan, 1838."

It is the map referred to by Captain Cram in his report as being a copy of, or similar to a map had by the Judiciary Committee of the Senate when considering the boundary question in 1834, showing the Menominee and Montreal Rivers as both rising in Lac Vieux Desert and forming a nearly direct boundary line from Lake Michigan to Green Bay. Along the proposed boundary is printed, "Boundary between Michigan and Wiskonsan."

Exhibit C is Map No. 2 in Cram's report of his fir survey, drawn by him, in so far as the Montreal River concerned, from information he had received, but not fro actual observation, and greatly misrepresenting the cour of the Montreal River and showing it as rising in a swam with no lake at its head.

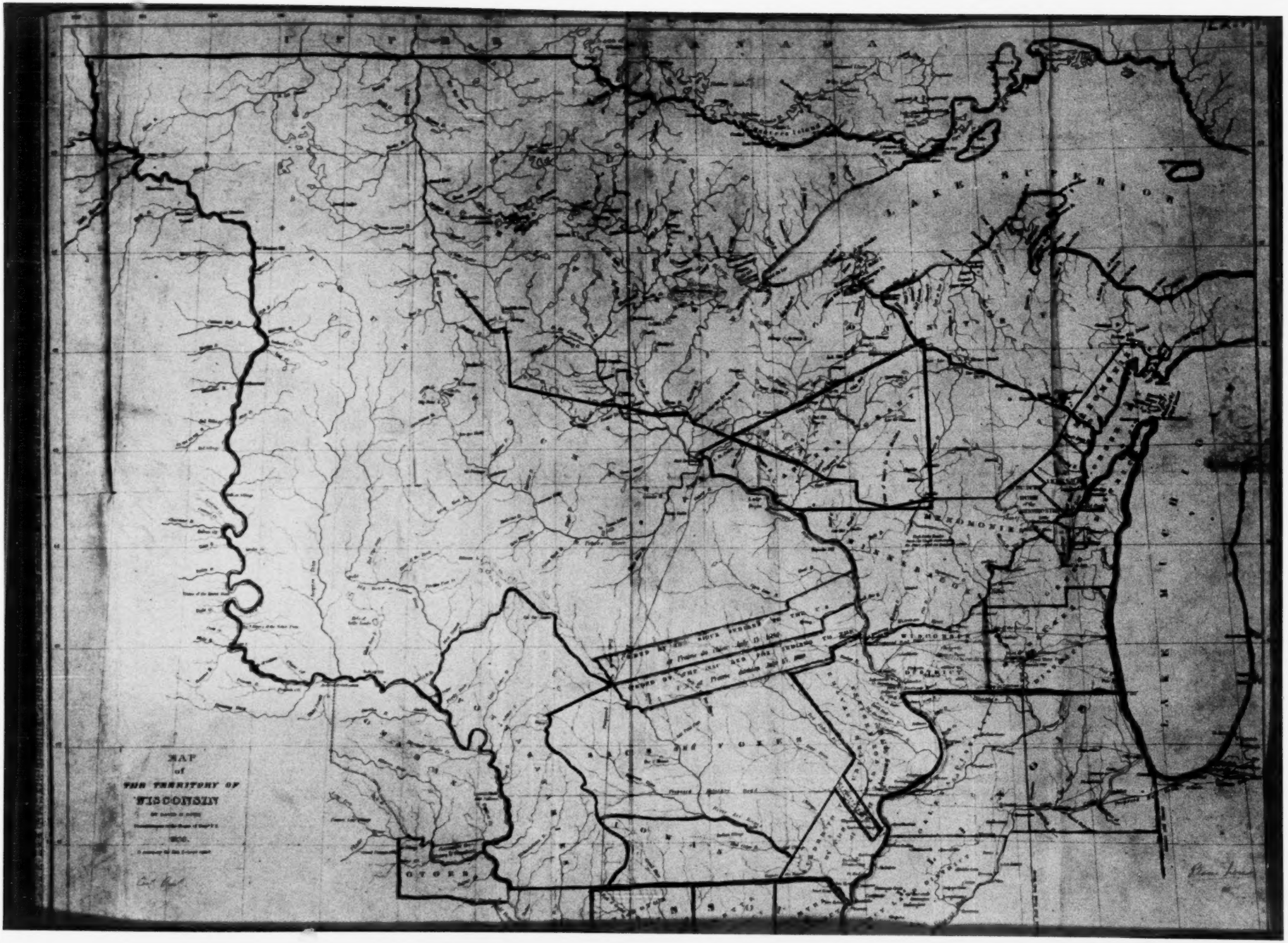
Exhibit D is Map No. 6 in Cram's second report, bein according to his report, a combination of several ma referred to therein, but which do not accompany the r port, which shows the Montreal River with but one su stantial channel and his markings of the head there where it forks into what he calls the Balsam and the Pi Rivers. This map shows various streams entering th river from the west, but no stream that can be said t fairly represent the West Branch, as it appears by goverr ment surveys and is shown on Exhibit E. It also show the Menominee River, with its principal branch, the Brul heading in Lake Brule, and Lac Vieux Desert between Lak Brule and the head of the Montreal River.

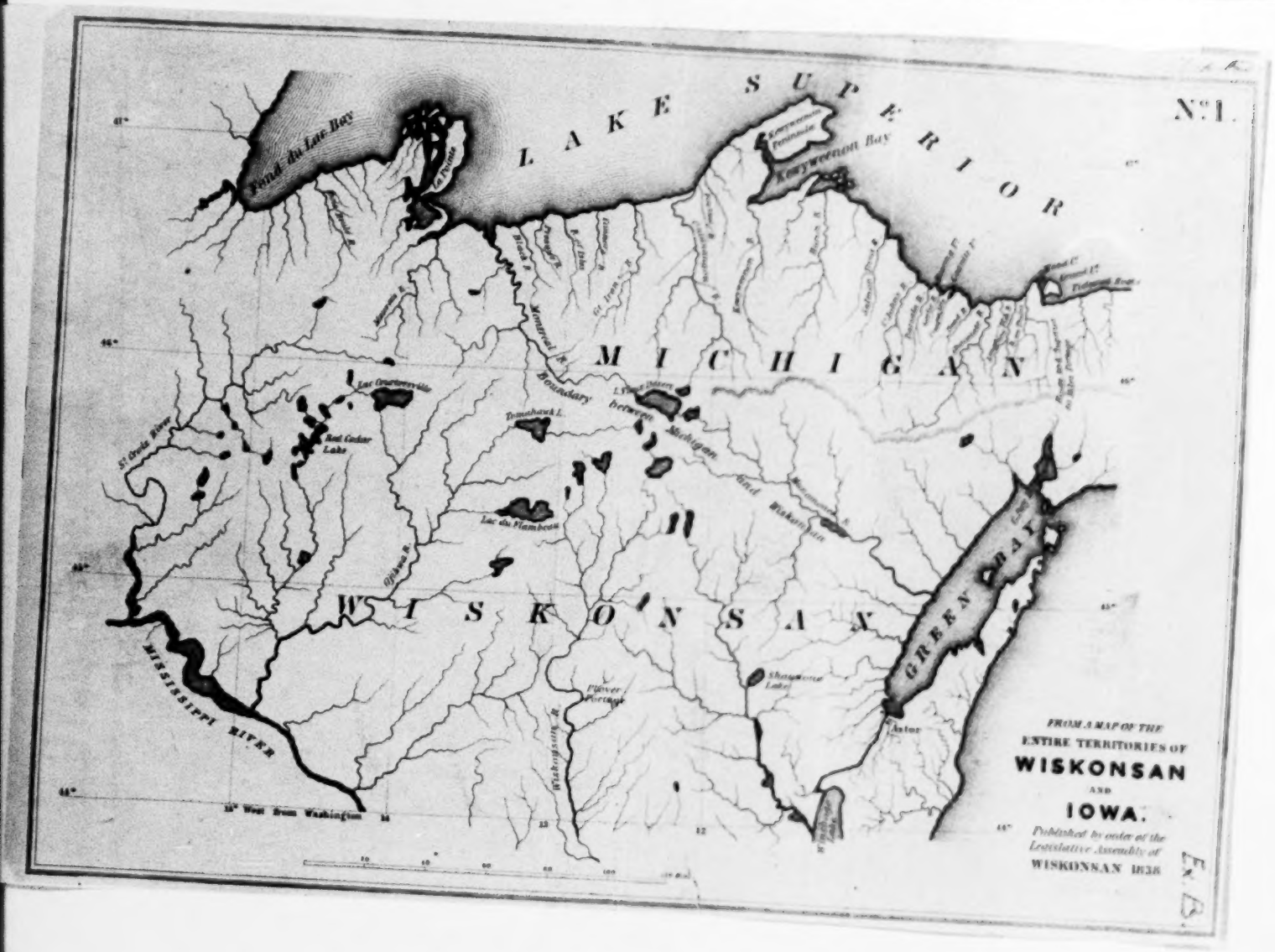
Exhibit E is a diagram prepared to exhibit the point and the area of the disputed territory.

Michigan claims the Montreal section of the boundar should start at letter "A," following up the river channe to Island Lake, represented by letter "C," and then t the head of the Brule River at the outlet of the Brule Lake represented by letter "D."

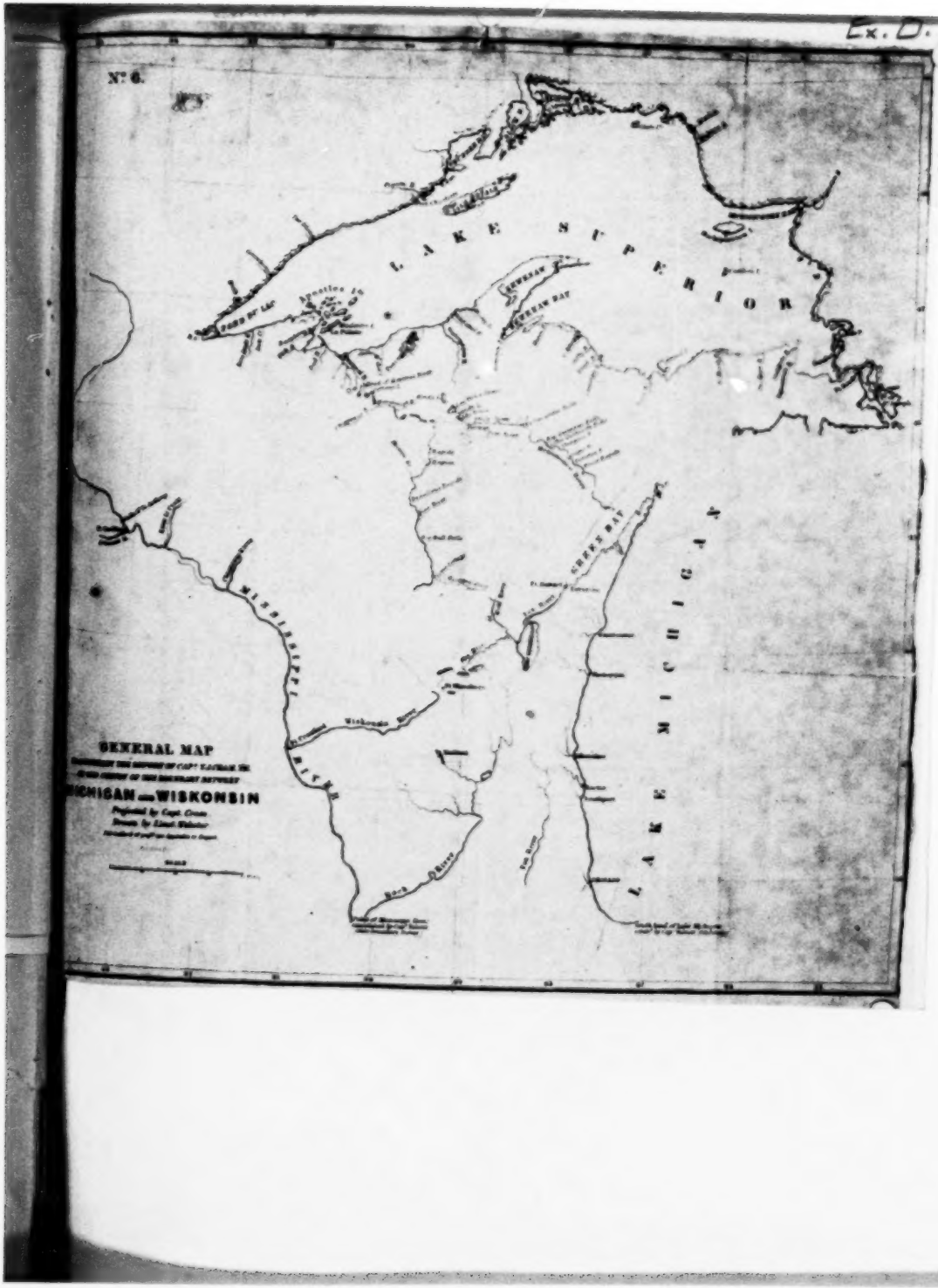
Wisconsin claims the boundary should run from "A" through "B," which shows the forks of the Montreal, t "F," the point of Cram's monument, and then through "E," that being Lac Vieux Desert, to "D."

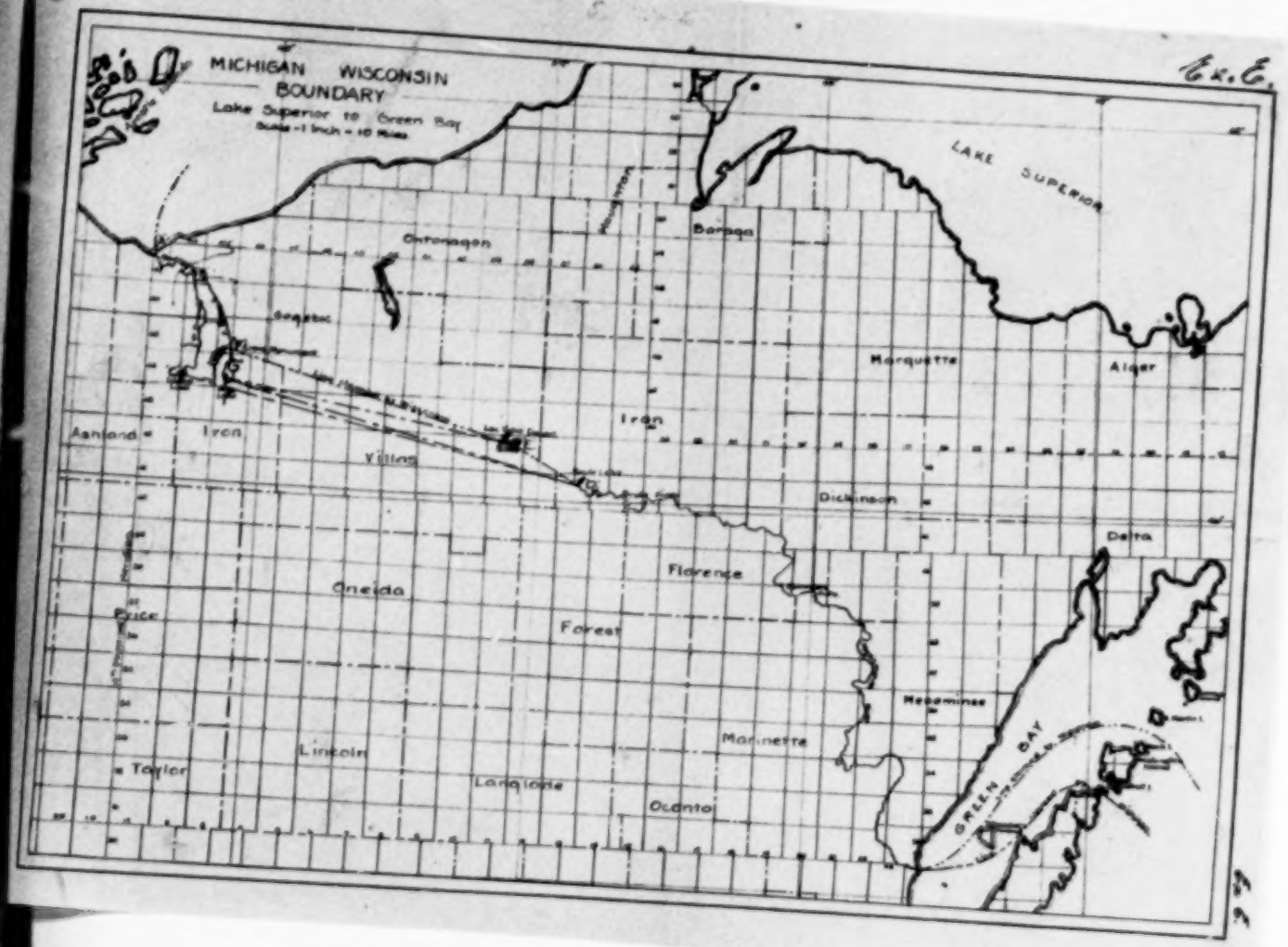
This map also illustrates substantially the disputed area in Green Bay.


MAP
of
THE TERRITORY OF
WISCONSIN
1836.
MICHIGAN
LAKE SUPERIOR
ILLINOIS
INDIANA
OHIO


LAKE SUPERIOR
MICHIGAN
WISKONSAN
Fond du Lac Bay
Keeweenaw Bay
Keeweenaw Peninsula
Lac Courteoreille
Red Cedar Lake
Tomahawk L.
Lac du Flambeau
Shawanoe Lakes
Portage
Astor
GREEN BAY
MISSISSIPPI RIVER
Boundary
between
Michigan
and
Wiskonsin
FROM A MAP OF THE
ENTIRE TERRITORIES OF
WISKONSAN
AND
IOWA.
Published by order of the
Legislative Assembly of
WISKONSAN 1838

Ex. D.


N° 6.
LAKE SUPERIOR
LAKE MICHIGAN
GREEN BAY
GENERAL MAP
MICHIGAN and WISKONSIN


MICHIGAN WISCONSIN
BOUNDARY
Lake Superior to Green Bay
LAKE SUPERIOR
Baraga
Ontonagon
Marquette
Alger
Iron
Ashland
Iron
Vilas
Dickinson
Delta
Florence
Oneida
Price
Forest
Menominee
Marinette
Taylor
Lincoln
Langlade
Oconto
GREEN BAY

IN THE SUPREME COURT OF THE UNITED STATES

ORIGINAL NO. 25

OCTOBER TERM, 1923

STATE OF MICHIGAN,

Plaintiff,

v.

STATE OF WISCONSIN,

Defendant.

Answer to Plaintiff's Bill of Complaint

Comes now the above named defendant, State of Wisconsin, by Herman L. Ekern, Attorney General, and Robert M. Rieser, Deputy Attorney General, its attorneys, and for answer herein respectfully admits, denies, qualifies and explains as follows:

(This answer is made to conform to the general plan of plaintiff's complaint, and for that reason the paragraphs

of plaintiff's complaint have been adopted in the answer so far as it affects the specific paragraphs of said complaint. Preceding each paragraph of this answer will appear in bold face type the particular paragraph of the complaint to which the particular paragraph of the answer refers.)

As to paragraph 1 of the complaint

1. Admits that the state of Michigan was admitted into the Union as a state pursuant to an act of Congress approved January 26, 1837 (5 U. S. Stats. at L., p. 144) with boundaries as described in the Enabling Act of said state approved June 15, 1836 (5 U. S. Stats. at L. 49).

As to paragraph numbered 2 of the complaint

2. Admits the allegation of the paragraph numbered 2 of the complaint, except the last clause thereof, as follows: "and so running as to include within the proposed boundary much more territory than the true course of the said rivers does include therein," which said allegation is hereby specifically denied.

Further answering said paragraph of said complaint, the defendant alleges that the boundary so agreed upon and the boundary as claimed by the state of Wisconsin are identical, and that no basis for dispute as to such boundary has ever existed or was ever understood to exist by the state of Michigan, the United States of America and the state of Wisconsin at any time.

As to paragraph numbered 3 of the complaint

3. Denies all matters set forth in paragraph numbered 3 of the complaint, except so much thereof as alleges that Michigan's admission into the Union of states was conditional upon her acceptance of the conditions contained in her Enabling Act.

Further answering said complaint, defendant alleges that the state of Michigan did not actually accept the conditions of her Enabling Act until the adoption of the Constitution of the state of Michigan in 1850.

As to paragraph numbered 4 of the complaint

4. Admits the allegations of paragraph numbered 4 of the complaint.

As to paragraph numbered 5 of the complaint

5. Denies all of the allegations of paragraph numbered 5 of said complaint, except that the country from the mouth of the Menominee River to the mouth of the Montreal River was wild and uninhabited, which allegation is admitted.

As to paragraph numbered 6 of the complaint

6. Admits the allegations of paragraph numbered 6 of said complaint, except the allegations of the second paragraph beginning on page 10 of said complaint, which said allegations are specifically denied.

As to paragraph numbered 7 of the complaint

7. Denies all matters set forth in paragraph numbered 7 of said complaint.

As to paragraph numbered 8 of the complaint

8. Admits that Captain Cram's report contained certain findings as to the channels of the Menominee River and Green Bay as quoted in paragraph 8, but specifically denies that such reports were in any way erroneous or inaccurate, or in any way disregarded any right of sovereignty of said state of Michigan, and further denies all conclusions and allegations made with reference to said report, as contained in said paragraph numbered 8.

Further answering the allegations of said paragraph 8 of said complaint, defendant alleges that the statements contained in the extracts from the reports of said Captain Cram therein quoted were in all respects true and correct.

Further answering the allegations of said paragraph 8 of said complaint referring to the resolutions of the Michigan legislature (complaint, pages 15 and 16), admits that said state passed the resolutions therein quoted as set forth in said complaint, but alleges the fact to be that said resolutions were passed as the result of information furnished to the legislature of said state by Dr. Douglas Houghton, then state geologist of said state and special commissioner of said state for the purpose of advising the state of Michigan as to the exact boundary line to be run from the mouth of the Montreal River to the mouth of the Menominee River, and appointed as such commissioner pursuant to a joint resolution of the legislature of said

state, passed February 2, 1841, and further alleges that the information so furnished was gathered and obtained by said Douglas Houghton while acting in his official capacity as such commissioner of the plaintiff state, and that such information was true and correct, as was likewise the resolution resulting from the report of the said commissioner.

As to paragraph numbered 10 of the complaint

10. Admits all allegations contained in paragraph numbered 10 of said complaint.

As to paragraph numbered 11 of the complaint

11. Admits that Captain Cram made a further report under date of February 10, 1842, as a result of his second expedition to the northern peninsula, and that the quotations contained in said paragraph are parts of the said report.

Further answering said complaint and the said allegations of said paragraph 11, defendant denies all allegations as to the various branches of said Montreal River, the claims and conclusions as to the proper source of the Montreal River, and all allegations contained in and found on pages 19, 20 and 22 of said complaint, except the authenticity of the quotations therein given.

Further answering said complaint and the specific allegations of paragraph 11 thereof beginning on page 17 and ending on page 24 thereof, defendant alleges that there never were two separate and distinct branches of the Montreal River in 1836 nor at any time since; that in truth and in fact the Montreal River as designated upon the maps of Captain Cram and all the early maps relat-

ing to said territory is the same river intended by Congress as the boundary and is the only Montreal River ever known to geographers, geologists, surveyors, historians and the contemporaries of the events fixing the boundary now in dispute; that the East Branch and West Branch of the Montreal River have been coined since the establishment of said boundary and were not in existence at said time, that at all times when the said boundary was under consideration, the tributary described as the West Branch of the Montreal River in the complaint was described and identified by persons familiar with the region referred to, by the Indian name of Gogogashugan River; that all early surveys of said region identify the Montreal River by said name, and while the Gogogashugan River (called West Branch in plaintiff's complaint) appears on some of said maps, it is not considered of sufficient size or importance to warrant naming it, indicating thereby that it was considered a lesser river and a tributary, rather than a branch of the Montreal River; that from the earliest maps, the so-called West Branch of the Montreal River has always been known as the Gogogashugan, and only recently as white settlers have come to the vicinity of said stream and said stream has been commonly referred to by settlers, as distinguished from the Indian inhabitants of said country, has the name West Branch of the Montreal River been given to said stream, and that said name of West Branch is of very recent date and was entirely unknown to the Indians and the early explorers of said region at or about the time of the laying out of the boundary in question.

Further answering said complaint and that paragraph commencing on page 25 thereof numbered 11, defendant admits the allegations thereof.

As to paragraph numbered 12 of the complaint

12. Denies all matters and claims set forth in paragraph numbered 12 of said complaint.

Further answering said complaint and the allegations of said paragrapuh 12, defendant alleges that the state of Michigan did ratify and affirm said boundary of Wisconsin and the specific provisions thereof by a constitutional convention held in said state, and by the adoption of the Constitution of the state of Michigan of the year 1850, as prepared by said convention, and by various public acts of its legislature, its constitutional conventions and various other public bodies, and that all of said action was taken with full knowledge and understanding of the real facts with reference to said boundary.

As to paragraph numbered 13 of the complaint

13. Admits the allegations of paragraph numbered 13 of said complaint, except the allegation therein contained that there are or ever were two branches of the Montreal River, which said allegation is specifically denied.

Denies that the state of Wisconsin was admitted with any conditions attached as to any of its boundaries.

As to paragraph numbered 14 of the complaint

14. Further answering said complaint, and particularly paragraph 14 thereof, defendant alleges that the territory claimed by Wisconsin, and particularly the islands therein described, were at all times intended by all parties here concerned to be under the sovereignty

of Wisconsin and to be Wisconsin territory, and that the channel of the Menominee River was and now is such that the islands awarded to Wisconsin never belonged to Michigan and that Michigan is without right to any of the islands claimed in and by the allegations of said paragraph.

As to paragraph numbered 15 of the complaint

15. Denies that the report of Captain Cram contained any misrepresentations as alleged in paragraph 15 of said complaint.

Denies that the Constitution of the state of Michigan adopted in 1850 is and constitutes a reaffirmance of any claim whatsoever, except a claim consistent with the boundary line as claimed by Wisconsin, and alleges that in truth and in fact said constitution was and is a solemn ratification and adoption of the boundary line between the states of Wisconsin and Michigan as it had then been laid out, surveyed and established, and that as such the action of the state of Michigan was taken after said state had become fully advised as to the true facts in reference to the true course of said boundary line and the claim of Wisconsin in respect thereto.

Further answering the allegations of said paragraph 15 of said complaint, defendant alleges that the constitutional convention of 1867 of said state of Michigan again reiterated the understanding of the convention of 1850 and the understanding of the voters with respect thereto, and that said constitution was not adopted because of the increase of state expenditures authorized thereby and for other reasons in no way connected with the change of wording in said boundary description.

As to the allegations contained in said paragraph 15 of said complaint, wherein reference is made to certain investigations made by one George H. Cannon, defendant has no knowledge or information sufficient whereon to base a belief, and therefore puts plaintiff to its proof as to such allegations, and further alleges that to the extent that any claim is made as to any difference in the size of various streams or any claim that any other stream than the Montreal River as it has always been known is a proper boundary line, such claim is false and untrue, and any information or claim to that effect, whether based on information or otherwise, is entirely contrary to the facts.

Further answering said complaint and the specific allegations of said paragraph 15 thereof, defendant alleges that ever since 1842, plaintiff state knew the nature and basis of Wisconsin's claim to the territory now in dispute; that said state knew and recognized such claims of the state of Wisconsin, and admitted by various acts that the boundary as now claimed by the state of Wisconsin was the true boundary and that Wisconsin's claim was in accordance with the intent of the state of Michigan, the Congress of the United States and the state of Wisconsin when said boundary line was first provided for.

Defendant further admits that said resolutions were passed by the legislature of the state of Michigan, but alleges the fact to be that no claim to the territory now claimed by this plaintiff was ever made.

As to paragraph numbered 16 of the complaint

16. Defendant admits that the plaintiff adopted a new constitution in 1908, and that said constitution took effect on January 1, 1909, and alleges that said constitution

was adopted without in any way advising the voters of said state or the members of the constitutional convention of the exact nature and effect of the changes then made in the constitution so far as the boundary lines of said state were affected.

Further answering the allegations of said paragraph of said complaint, defendant alleges that said constitution, in so far as said constitution differs as to boundaries claimed by the plaintiff, was adopted, not for the purpose of making claim to additional territory, but for the purpose of forcing a settlement from the state of Wisconsin, as fully appears from the proceedings of the constitutional convention.

Denies each and every other allegation and claim set forth in said paragraph 16 of said complaint.

As to paragraph numbered 17 of the complaint

17. Defendant admits the allegations of paragraph 17 of said complaint.

Further answering said paragraph 17 of said complaint, plaintiff alleges that in addition to such description of the boundary, said defendant, state of Wisconsin, also adopted the following provisions incorporated in the Enabling Act of Congress, to wit:

> "And be it further enacted, that to prevent all disputes in reference to the jurisdiction of islands in the said Brule and Menominee Rivers, the line be so run as to include within the jurisdiction of Michigan all the islands in the Brule and Menominee Rivers (to the extent in which said rivers are adopted as a boundary), down to and inclusive of the Quinisec Falls of the Menominee; and from thence the line shall be so as to include within the jurisdiction of Wisconsin all the islands in the Menominee River from the Falls aforesaid down to the junction of said river with Green Bay;"

and that ever since said time of the adoption of the Michigan constitution, said boundary, so far as the Menominee River of Green Bay is concerned, has been and now is as qualified and limited by the provisions of the Wisconsin Enabling Act approved August 6, 1846, and that said proviso has ever since been accepted and considered as part and parcel of the description of said boundary by the parties hereto and by the government of the United States; that said provisions of said boundary were adopted for the purpose of definitely identifying said boundary and principally the channel of the Menominee River, and were accepted as a fair and equitable division of the islands in the channel of the Menominee River by both plaintiff and defendant herein.

As to paragraph numbered 18 of the complaint

18. Defendant admits the allegations of paragraph numbered 18 of said complaint, except that the dispute dates from the original proceedings establishing the boundary as contained in the act of June 15, 1836, which said allegation is specifically denied, and further alleges that any dispute as to said boundary is due to the wrongful, erroneous and unjust claims of the plaintiff herein.

As to paragraph numbered 19 of the complaint

19. As to paragraph numbered 19 of said complaint, defendant admits that the state of Michigan now lays claim to three distinct sections of territory along the said boundary line.

As to paragraphs 19, 20 and 21 of said complaint,

Defendant admits that the claims as made by the respective parties are in substance as set forth in said paragraphs, but denies that in truth and in fact any of the islands claimed or any of the territory claimed by said state of Michigan properly belongs to said state under her boundaries as defined in the Michigan Enabling Act passed June 15, 1836.

As to paragraph numbered 22 of the complaint

22. Defendant alleges that it has no information sufficient whereon to form a belief as to such allegations, and therefore puts plaintiff to its proof as to the same.

As to paragraph numbered 23 of the complaint

23. Defendant denies each and every allegation of said paragraph 23 of said complaint.

As to paragraph numbered 24 of the complaint

24. Defendant admits that the legislature of Michigan has authorized and directed the attorney general of said state to commence this action.

General answer to the allegations of said complaint

Further answering said complaint generally, and by way of further defense thereto, defendant alleges that the boundary line claimed by plaintiff is not the boundary line intended by Congress at the time plaintiff was ad-

mitted into the Union as a state, nor is it the boundary line intended to be accepted by the people of the state of Michigan at any time; that the boundary line claimed by the state of Wisconsin is the true boundary line and always has been such boundary line and the boundary line intended by Congress to mark the limits of sovereignty of the two respective states, and that said boundary line has always been accepted by the parties to this controversy strictly in accordance with the claim of the state of Wisconsin.

Further answering said complaint, defendant alleges that the plaintiff and the government of the United States have, ever since the passage of the Michigan Enabling Act, recognized the boundary as claimed by the state of Wisconsin; that the parties hereto, as well as the government of the United States, have at all times by solemn acts of the various departments of government recognized and acknowledged the boundary line as now and always claimed by the state of Wisconsin; that all of said parties have always acknowledged the right of sovereignty in the state of Wisconsin over the said territory, and that for the entire period since 1836 and now, Wisconsin has openly exercised her right of sovereignty over all territory within the line as claimed by said state of Wisconsin; that as a result of such action by the state of Wisconsin, and as a result of the acts and activity of the plaintiff and the government of the United States, vast and valuable rights have attached and become vested in reliance upon the validity of the claims of the parties hereto and in reliance upon the failure of the state of Michigan to make any other claim, which said rights would be materially disturbed and damaged, and great inconvenience, doubt and misunderstanding would result if any other

boundary line than that always accepted by the parties hereto were to be adopted, with the result that it is inequitable and unjust to grant any relief to the plaintiff at this time; that if the boundary line as accepted by all the parties hereto and by the government of the United States throughout the period from 1836 to the time of the commencement of this action be now disturbed, such action will result in great hardship, inconvenience and injustice to various communities, municipal corporations, private corporations and individuals who have acted in reliance upon said boundary, and will seriously interfere with the rights of said persons, as well as diverse and different other persons and individuals who have acted in reliance upon the boundary line as so defined and accepted throughout the period aforesaid, all with the result that if relief were now to be granted in accordance with the prayer of the plaintiff herein, great hardship and injustice would be done.

That among other parties affected by this claim are settlers, owners of real estate in the territory in dispute, public and municipal corporations, mining and shipping interests, and diverse and different other interests, none of which are now parties and all of which would be and are adversely affected by any judgment at this time fixing the boundary as claimed by the state of Michigan; that such claimed relief is inequitable, and that it would subject all of such interests to new and different government supervision; would seriously affect vast bond issues made by various public and municipal corporations in reliance upon the boundary as hitherto claimed by the state of Wisconsin and recognized by the plaintiff state of Michigan; would cast doubt and reflection upon the security

back of such bonds and public obligations, and especially as to the entire boundary would remove vast and valuable territory which, when removed, would leave an assessed valuation in the remaining territory within the state of Wisconsin inadequate as security for the indebtedness of the various municipal corporations, and such that in many cases large bond issues would fail because in excess of the constitutional limit of indebtedness prescribed by the constitution of the state of Wisconsin for such municipalities.

Further answering said complaint and by way of further defense thereto, the defendant alleges that the Constitution of the state of Wisconsin, article XI, section 3, provides in part:

> "* * * No county, city, town, village, school district or other municipal corporation shall be allowed to become indebted in any manner or for any purpose to any amount including existing indebtedness in the aggregate exceeding 5% on the value of the taxable property therein, to be ascertained by the last assessment for state and county taxes previous to the incurring of such indebtedness. * * *"

That a large number of counties, cities, towns, villages and school districts are located within said disputed territory, all of which have become and are now indebted and become obligated to pay large sums of money in reliance upon the boundary line as claimed by the state of Wisconsin and as recognized by the state of Michigan throughout the period hereinabove referred to, and upon the assumption that the territory embraced within the disputed area affected by this suit was properly within the boundary of the respective municipalities and that a large part of the territory claimed by such municipal corporations was not subject to any claim of the state of Michi-

gan to any of said territory, and that in reliance upon the claim of the state of Wisconsin resognized by the state of Michigan and also in reliance upon the fact that the territory within their respective boundaries was not subject to the claim of any state, such municipalities became indebted in large amounts, which said indebtedness was evidenced and secured by bond issues offered by such municipalities in reliance upon the apparent proper legal boundary of the state of Wisconsin unaffected by any claim of the state of Michigan; that in purchasing such bonds, the present owners thereof relied upon the continued claim of Wisconsin's right to sovereignty over the area now in dispute and the additional security furnished such purchasers by reason of the large value of said property; that if such area is now removed and a large number of municipalities deprived of a large amount of such property, the security of such bondholders will be materially impaired and in many instances said bonds will be of doubtful value, for the reason that the assessed valuation of the remaining property and area within such municipal corporation is not sufficient to justify a legal bond issue in an amount equivalent to that outstanding at the present time, while in truth and in fact at the time of the issuance of such bonds, ample authority and ample security was in existence, and no question of the constitutional debt limit being exceeded was ever suggested; that by reason thereof, said bondholders are material parties to this suit and have acquired vested rights in reliance upon the failure of the state of Michigan to make any claim to the territory now in dispute throughout the period aforesaid, with the result that it is unjust and inequitable at this time to take any action with reference to such boundary which will in any way affect the validity of the

bonds and the indebtedness in question or the security of the bondholders of such municipal corporations.

Further answering said complaint, defendant alleges that Island Lake, referred to by the plaintiff in the complaint as being one of the "Lakes of the Desert" is not one of the Lakes of the Desert and never was considered to be such lake, and is in fact removed from the true Lake of the Desert by a distance of 60 miles or more; that at all of the times when the boundary line in question was under consideration, there was and now is a large, well-known lake, which was known by the name Lac Vieux Desert or Lake of the Desert, which said lake was noted upon all of the maps at the time of the establishment of said boundary and was always accepted as one of the principal landmarks or monuments in the establishment of said boundary, and that said Lake of the Desert is not Island Lake referred to in the complaint, but is an entirely different lake, in no way connected with said Lake of the Desert, and that said Island Lake was never intended to be and never understood by any of the parties to this controversy or by the government of the United States to be a part of the boundary line between the state of Wisconsin and the state of Michigan.

WHEREFORE, defendant prays that plaintiff take nothing by this complaint and that this action be dismissed, and that it be adjudged that the boundary line as claimed by the state of Wisconsin is the true and correct boundary line between the state of Michigan and the state of Wisconsin, and that in so far as there may now be lack of any monuments or any sufficient markers identifying and establishing said boundary, proper marks of identi-

fication be established, to the end that further
disputes may be avoided.

HERMAN L. EKERN,
Attorn

ROBERT M. RIESER,
Deputy Attorn

Attorneys for the State of

ner and future

orney General,

orney General,
of Wisconsin.

MOTION TO DISMISS

(3)

Office Supreme Court, U. S.
FILED
MAR 29 1924
WM. R. STANSBURY
CLERK

In The

Supreme Court of the United States

October Term, 1923.

Original No. [redacted]19

STATE OF MICHIGAN,
Plaintiff,
v.
STATE OF WISCONSIN,
Defendant.
} In Equity.

PLAINTIFF'S BRIEF IN OPPOSITION TO DEFENDANT'S MOTION TO DISMISS THIS ACTION.

ANDREW B. DOUGHERTY,
Attorney General,
A. L. SAWYER,
Special Counsel,
Attorneys for Plaintiff.

Mich. Brief & Record Co., 1400 Field Ave., Detroit, Mich.

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In The

Supreme Court of the United States

October Term, 1923.

Original No. 25.

STATE OF MICHIGAN, *Plaintiff*, v. STATE OF WISCONSIN, *Defendant*.	In Equity.

PLAINTIFF'S BRIEF IN OPPOSITION TO DEFENDANT'S MOTION TO DISMISS THIS ACTION.

The plaintiff, defending against said motion, asks that same be dismissed:

First. Because it is apparent from the bill of complaint and the motion taken together and the affidavit filed in opposition to said motion, that the issue sought to be disposed of under said motion, is one that cannot be fairly tried under the rules of practice governing proceedings upon motion.

Second. Because it does not appear, as claimed by defendant, that public documents therein referred to *conclusively* contradict essential allegations of the bill, and it does not appear that public documents of which the court can take judicial notice, constitute all the evidence that may be furnished in support of the bill, or that the public documents referred to are all the documents of that nature bearing upon such issues, and it does appear that there is much other evidence which plaintiff desires to produce, important to the issue raised by said motion, which cannot properly or conveniently be presented on a hearing of said motion, but can be presented at a hearing in the regular course of practice of hearings upon pleadings.

Third. Because the bill of complaint does set forth a cause of action, on which plaintiff is entitled to submit proofs, and there is no showing that all the evidence on any essential feature of the bill is before the court.

Under the heading of "Issues Presented by Motion" at the beginning of defendant's brief, there is an attempt at stating the plaintiff's theory of the case, which is far from a correct statement of our theory. It is not our theory that there is any ambiguity or uncertainty in the description of the boundary in the act of cession to Michigan, as must be inferred from the statement referred to in defendant's brief, but there are portions thereof which require establishment in places by engineering proofs, and in other places by other proofs.

PLAINTIFF'S CASE.

While we take it that the only issue before the court is the question as to whether or not the bill of complaint, or the complaint as either modified by the use of such public documents as are *conclusive* upon any essential allegation of the complaint, states a cause of action, the entire complaint together with the documents referred to must be considered to determine this question, and as a consequence this brief must be quite lengthy, and involves quite a full presentation of

STATEMENT OF FACTS PRESENTED.

Michigan was admitted into the Union January 26th, 1837, with boundaries as described in the Act of June 15, 1836, which conditionally provided for such admission and for the adjustment of the boundary dispute that had long existed between Michigan and Ohio. The territory included within those boundaries was only a part of what had been Michigan Territory. Shortly before, and on the 20th day of April, 1836, Congress created the Territory of Wisconsin entirely from other portions of what had been included in Michigan Territory. The boundary between the state of Michigan and the Territory of Wisconsin, along the line now in dispute, was identical in the two acts, although described in the reverse order in one from that in the other, and with a slight and immaterial variance in the wording as to that portion extending through Green Bay.

At that time the country traversed by most of the boundary in question and especially that of the Montreal river section was an entire wilderness, very hard of access and almost wholly unknown.

Michigan's efforts to be admitted as a state had been unsuccessful for a period of years, largely because of a long-

standing controversy with Ohio over Michigan's southern boundary. In 1834, it was tentatively agreed by the Judiciary Committee of the Senate, to grant Ohio's claim and to compensate Michigan by extending her northwestern boundary across the lakes. At that time the Committee had before it an erroneous map which showed the Menominee and Montreal rivers both with a common source in a large lake called Lac Vieux Desert, thus forming a continuous waterway from Lake Superior to Green Bay of Lake Michigan. The course of those rivers was then tentatively agreed upon as a proper boundary.

Between that time and April 20th, 1836, it had been learned by Congress that there was no such continuous waterway, but that there were numerous lakes in that region called "Les Lac Vieux Desert," translated sometimes, improperly, "Lakes of the Desert," one of which was connected with the main channel of the Montreal River, one of which was at the head of that branch of the Menominee which appeared upon a map to come nearest to the Montreal, and one at the head of each the Ontonagon, Wisconsin, and Chippewa Rivers (Complaint Exhibit A).

This map, which is found in the Library of Congress and is referred to as a part of the Bill of Complaint shows upon its face that it was made in 1836 by David H. Burr, draughtsman to the House of Representatives. By it, it appears that Congress knew the general and comparative location, though not the exact location of these lakes and they were able, with this information, to describe a boundary that could have been, and they did describe a boundary that could and should have been laid down in the field. By this map we are further informed, by the appearance of the heavy black lines, some of which mark Indian boundaries, and one of which marks the boundaries of Carvers' grant, that by still another Congress indicated its understanding and intent as to the location of most of the boundary now in question by the use of the heavy black line which, starting at the mouth of Montreal River, Lake Superior, follows up that river to a lake shown on that map as located at

its head, thence continuing its southeasterly course to a lake at the head of the river Menominee or a branch thereof, and that line left on its northerly side a lake taking the place, substantially, of the lake now known as Lake Gogebic, and the Lake now known as Lac Vieux Desert, and had directly in its course the lake at the head of the main channel of the Montreal now known as Island Lake and the Lake at the head of the branch of the Menominee, now known as Brule Lake, with two lakes to the south thereof. That map further shows by the plural form in French, printed clear across from the Lake at the head of the Montreal to that at the head of the Menominee, "Les Lac Vieux Desert" (the lakes of the old, or deserted, place). Then translated on another map as "Lakes of the Desert." Besides this the Bill alleges that they, with a large number of other lakes in that vicinity were then known as "The lakes of the Desert" (Complaint, p. 4).

In this situation the final Bills were presented to and passed by Congress creating Wisconsin Territory and providing for the admission of Michigan into the Union, in each of which the land portion of the boundary in question was described in such a way as to accord with the showing made by that map (the Burr Map of 1836), and not to accord with the earlier map which was used by the Judiciary Committee in 1834, and which showed the continuous water boundary.

That description, as found in the Act of June 15th, 1836, can be easily traced by following the heavy black line placed on said Burr map to indicate said boundary, and in said map may be found material objects to accord with every feature of that description. Said portion of said boundary is described in said act, from the mouth of the Montreal River, as follows:

> "Thence through the middle of the main channel of said River Montreal, to the middle of the Lake of the Desert; thence in a direct line to the nearest head waters of the Menominee River; thence through the

> middle of that fork of said river first touched by said line, to the main channel of said Menominee River; thence down the center of the main channel of the same, to the center of the most usual ship channel of Green Bay of Lake Michigan."

In 1838, the Legislative Assembly of "Wiskonsan" Territory caused to be published a map (Complaint Exhibit B) called the Judson map and which is alleged to have been similar to the one referred to as having been had by the Judiciary Committee in 1834, and which, as said by Captain Cram (Complaint, p. 8),

> "was supposed to present a more correct delineation of the waters between Lake Superior and Green Bay than any other map extant."

We find in the Library of Congress a map published by John R. Tanner in 1830, on which a continuous waterway was shown and from which Complaint, Exhibit B, was undoubtedly copied, although, on that Tanner map the group of lakes which on Complaint, Exhibit B, are connected and marked "L. Vieux Desert," on the Tanner map are marked "Lakes of the Desert."

Said map (Exhibit B) purports to show a continuous water boundary along said lines, with both Menominee and Montreal Rivers rising in a large Lake named "Lake Vieux Desert," and along the course of those rivers is plainly printed, "Boundary between Michigan and Wisconsin." By the making of this map a part of the Bill of Complaint in connection with allegations regarding it (Complaint, page 8), the complaint is made to allege that the Territorial Legislature of Wisconsin misrepresented to the world at large the true geography of that section of the now disputed boundary, notwithstanding the fact that the corrected map from which the description of the boundary was taken had been in possession of Congress two years before this map was printed. This map, showing the continuous water boundary, does not accord with that portion of the Michigan

description of the boundary, which, after following up the Montreal River to the center of the Lake of the Desert reads:

> "thence in a direct line to the nearest head water of the Menominee River,"

or, with that portion of the boundary of the Territory of Wisconsin, which after reaching the Menominee River reads (Complaint, pages 3 and 4):

> "Thence through the middle of the main channel of said river, *to that head of said river, nearest* to the Lake of the Desert; *thence in a direct line to the* middle of said lake, thence through the middle of the main channel of the Montreal River to its mouth." (The italics are ours.)

In 1838 Congress made provision for the survey of this portion of the boundary between the State of Michigan and Territory of Wisconsin, and directed that it be

> "Surveyed, marked and designated"

agreeably to the description in the Michigan Act of June 15, 1836 (Complaint, pages 5 and 6).

In 1840 the matter was placed under the supervision of the War Department, and the survey provided for was placed directly in the hands of Captain Thomas Jefferson Cram, Captain of the Board of Topographical Engineers.

It became and was the duty of Captain Cram, under the direction of Congress, to survey the line in accordance with the description in the Michigan Act.

Under date of July 30th, 1840 (Complaint, page 6), the war department gave Captain Cram instructions for carrying out said survey and in those instructions the boundary to be located is described in part, as,

> "thence through the middle of the channel of the River Montreal, to the middle of the Lake of the

Desert, thence in a direct line to the nearest head of the Menominee."

He was also advised in his letter of instructions that,

"the line from the head of the Montreal River to the head of the Menominee must also of necessity be surveyed as it is an undetermined line without distinct physical characteristics.

This line, it is said, must pass through Desert Lake. Recent information indicates a belief that there are several Lakes between the head waters of those two rivers called Lakes of the Desert. They are so delineated and named on some maps in that locality which I have examined. The survey, however, will give correct information on the subject * * * from the foregoing remarks you will require immediate survey only of Green Bay and of the Country between the head waters of the Montreal and the Menominee through which the line is to be traced * * * the first survey applies itself to the line between the head waters of the two rivers named."

By this allegation of the complaint it is charged that Captain Cram was not only advised as to the correct line he was to locate but also of the fact that there were several lakes of the Desert between the head waters of the Menominee and the Montreal and that they were not supposed to head in one Lake. Captain Cram made his first trip in connection with that survey in the summer of 1840, and was much handicapped by the fact that the Indian title had not been extinguished in much of the territory he was to traverse, and by the further fact that it was a wilderness of the wildest kind and far from any settlements of consequence, and further by having an inadequate appropriation for the work.

Instead of traversing and surveying the line in its course as laid down in the Michigan Act, Captain Cram started his survey in the reverse order, going up the Menominee

River to the Brule which he correctly designated as that branch of the Menominee, the head of which came nearest to Lake of the Desert. From the head of the Brule River he surveyed a direct line to Lac Vieux Desert which is a large Lake found by him to be the head of the Wisconsin River, and which is located some three or four miles northerly from a direct line between the lake at the head of the main channel of the Montreal and the head of the Brule. As alleged in the Complaint and shown by his report, he had much trouble with the Indians in making that survey and he expected that on reaching Lac Vieux Desert he would be at the head of the Montreal, and would find it to be the Lake named in the description of the boundary in the Michigan Act as Lake of the Desert. When he reached Lac Vieux Desert he was informed by the Indians that it would require eight days' travel by an Indian without a pack to reach the Montreal River, and that there was no lake at the head of the Montreal River but that it took its rise in a large swamp, and that the Montreal River took a different course than what it was supposed to have.

It was in October, and winter was already setting in while Captain Cram was at Lac Vieux Desert, and it would have been difficult if not impossible for him to have pushed forward to the Montreal River at that time.

Notwithstanding Captain Cram's instructions that there were supposed to be several lakes of the Desert between the head waters of the rivers Menominee and Montreal, he determined and reported that Lac Vieux Desert, where he had arrived, was the Lake of the Desert named in the description of the boundary, and was an essential point in the boundary, and that because it was not at the head of the Montreal, and the Montreal River had no lake at its head, *the line as laid down in the Michigan Act was an impossible line, and could not be laid down in the field.*

Captain Cram, in his report, referred to and made a part of the bill, correctly interpreted the understanding of Con-

gress to a certain extent as set forth in his report (Complaint, page 7), as follows:

> "1st. That Lake of the Desert referred to therein was the head water of, and discharged itself into the Montreal River; 3rd. That of all the head waters discharging themselves into the Menominee River one would be found with a head nearer to said Lake of the Desert than any other."

He distinctly erred in his conclusions, as recited in his report (Complaint, page 7), that the suppositions of Congress

> "were doubtless made by the Committee of Congress who drafted the description of the boundary, and predicated on information derived from a map similar to one entitled 'map of the entire territories of Wisconsin and Iowa, published by order of the legislative assembly of Wisconsin, by L. Judson,' and which was supposed to present a more correct delineation of the waters between Lake Superior and Green Bay than any other map extant."

As we have already shown, that Judson map does not accord with the description of the boundary as laid down in the Michigan Act or the Wisconsin Territorial Act, or the instructions to Captain Cram, and he erred in concluding that that map was the basis of fixing that boundary. He further states:

> "An exact copy of as much of said map as is necessary for illustration is attached to this report and marked No. 1.
>
> Upon this map it will be perceived that the boundary between Michigan and Wisconsin is laid down as following a direction from Lake Superior nearly southeast to Green Bay; and that the courses of the Montreal and Menominee Rivers if taken together, constitute a general route in the same direction; and that Lac Vieux Desert (Lake of the Desert) is not

only represented on this map as being the head of the Montreal, but is likewise represented as the head of the Menominee."

From the foregoing, as set out in the Complaint, it conclusively appears that Captain Cram used the erroneous map copied by Wisconsin from the map had by the Committee in 1834 and did not have the Burr map of 1836, and by the use of the erroneous map he formed a false conclusion of the understanding of Congress regarding the geography of the country. His report is a lengthy one, various portions of which are set out in the Compaint (Complaint, pages 7-17). Aside from the fact above recited as to Captain Cram's misinterpretation of the understanding of Congress in the matter, and the misrepresentation that Lac Vieux Desert was essentially a point in the boundary, the features of the report, as far as this action is concerned, are that he did locate the Brule River as that head of the Menominee River which is referred to in the description of the boundary which he was directed to survey, and thus far his action was correct and the boundary was located. From the head of the Brule River he surveyed and located a direct line to "Lac Vieux Desert" under the mistaken impression that that lake was the "Lake of the Desert" named in the description of the boundary. That being so that portion of his survey from the head of the Brule River was not in accordance with his instructions, was not a part of the boundary he was to survey, and was not binding on anyone. By his report he uses the name "Lac Vieux Desert" (Complaint, page 9), and then he places his translation thereof by following it, parenthetically with the name "Lake of the Desert." In this way he connects this Lake with the "Lake of the Desert" named in the description of the boundary, and by the use of his erroneous map and through his erroneous interpretation of the understanding of Congress he erroneously concluded that this "Lac Vieux Desert" was the "Lake of the Desert" mentioned in the boundary, notwithstanding the fact that the name "Lac Vieux Desert" had not been used in describing the boundary, or in his instructions, and notwithstanding the fact

that, through his instructions he was informed and consequently should have known that the later maps indicated there were several lakes of the Desert between the heads of the Menominee and Montreal Rivers, the truth of which his survey should determine. Notwithstanding all this, on arriving at Lac Vieux Desert and there learning that that Lake was not the head of the Montreal as he had erroneously supposed, and there being informed that it was eight days' travel by an Indian without a pack from Lac Vieux Desert to the head of the Montreal River, and being further erroneously informed that there was no lake at the head of the Montreal River but that, on the contrary, it took its rise in a large swamp, and also being erroneously informed as to the course taken by the Montreal River, he reported those erroneous matters as conclusions, and he erroneously embodied in his report the conclusion that the "Lac Vieux Desert" he had arrived at was the "Lake of the Desert" mentioned in the description of the boundary, and was an essential point in the boundary, and that because of its not being connected with the Montreal River (Complaint, page 9).

> "It is not surprising that the said description, so far as it relates to the head waters of the Montreal and Menominee, *is so worded that the conditions of the act defining the boundary CANNOT BE COMPLIED WITH* to the extent of all the requirements of the act" (Complaint, page 8) (italics are ours).

His report further expressed the same conclusion, as follows (Complaint, page 8):

> "The survey could not have been carried any further, on account of having reached a point, beyond which the description of the boundary ceased to be in accordance with the physical character of the country."

Furthermore, as if to clinch and make definite his conclusions, which were grossly erroneous, he prepared and attached to his report his map No. 2 (Complaint, Exhibit

C), which he prepared from his erroneous information, and of this he says (Complaint, page 9):

> "Map No. 2 which is attached to this report, exhibits a more faithful delineation of the country between Lake Superior and Green Bay, along the route of the boundary, than any other map. * * * Still the map should only be regarded as an approximate of the truth; that part of it, however, which represents the district between Lake Brule and Lac Vieux Desert and which was necessary to survey, is accurate; being made from minute surveys. The same degree of accuracy is to be attributed to the portion between the mouths of the Menominee and White Rapids, and to that portion immediately north of Green Bay, and to the portion representing Green Bay itself. The other parts of the map are made from reconnaissances and explorations of the grounds *and from information derived from Indians,* whose representations are entitled to confidence." (Italics are ours.)

Referring to map No. 2 it will be seen that it does not indicate any survey in Green Bay. It does indicate the Montreal River, following up stream, taking a course very far to the east of its regular course, and taking its rise in a swamp lying to the northwest of what is now known as Lake Gogebic.

But referring to Exhibit E of the complaint, same being a map made from surveys, it will be seen that Exhibit C was extremely erroneous as to that part of the country in question lying west of Lac Vieux Desert.

As to map No. 2 as above referred to, Captain Cram further says in his report (Complaint, page 10):

> "From the course which the Montreal River is now found to have, and from the fact that the Lake of the Desert has no connection whatever with this

River, it will be perceived that it will be *impossible* to run a line according to the meaning of the words in the description of the boundary 'thence through the middle of the channel of said River Montreal, to the middle of the Lake of the Desert.' (Italics are ours.)

It is true that the channel of the River might be followed to its very head and from this head a line could be run over the ground to the middle of the Lake of the Desert; but it is not presumable that such a random line was ever intended by Congress to constitute any portion of the boundary in question. It was undoubtedly supposed that the Lake of the Desert was at the head of the Montreal; and that a natural boundary would be found to be provided all the way from the mouth of the Montreal to the middle of said lake; and that it would only be necessary to mark out a line from the middle of this lake to the nearest head water of the Menominee River."

The Complaint alleges and the exhibit shows that Captain Cram erred in his conclusions as to the course of the Montreal River and as to his conclusion that it would be impossible to run a line through the middle of the channel of said River Montreal to the middle of the Lake of the Desert, because, the allegation of the complaint, and Exhibit A show that the Lake at the head of the west branch of the Montreal River, now known as Island Lake, was then known as one of the Lakes of the Desert, and was the lake referred to in the description of the boundary as Lake of the Desert. The complaint alleging this fact, the plaintiff is entitled to and can produce further evidence confirming this allegation.

Captain Cram reached a very reasonable conclusion when he said:

> "But it is not presumable that such a random line was ever intended by Congress to constitute any portion of the boundary in question."

That random line which he speaks of is substantially the line and embodies the elements of the line which Wisconsin now claims, and which he says it is not presumable that Congress intended.

He erred in his conclusion that Congress, when it prescribed the boundary, supposed, referring to Lac Vieux Desert

> "that a natural boundary would be found to be provided all the way from the mouth of the Montreal to the middle of the lake."

It is evident this conclusion was arrived at because of his former erroneous conclusion that a map similar to Exhibit B, his map No. 1, represented Congress' understanding of the situation. He was right in his conclusion (Complaint, page 11),

> "that it would only be necessary to mark out a line from the middle of this Lake to the nearest head water of the Menominee River."

It must be gathered from the allegations of the complaint and the exhibits thereof that Congress did so understand the situation, and had the surveyor started at the mouth of the Montreal River, and followed the course of the main channel, he would have arrived at a lake at its head, then one of the Lakes of the Desert now called Island Lake, and he would have concluded, whatever the name of that Lake might have been called locally, or even if it had no local name, that that was the lake which filled the geographical position called for and which was referred to in the description as Lake of the Desert. Having arrived at the center of that Lake of the Desert at the head of the Montreal River, using the words of Captain Cram, Congress then considered, and it was a fact,

> "that it would only be necessary to mark out a line from the middle of this Lake to the nearest head water of the Menominee River,"

That line would have been a line direct from the center of

what is now Island Lake, to the head of Brule River, shown on Complaint, Exhibit E, as running from the letter C to the letter D; that being the most southerly line in that diagram, and it would have left Lac Vieux Desert far to the north of the true boundary line.

Captain Cram, in continuing his report, further said (Complaint, page 11):

> "From the foregoing description of the route, it will now appear, *that it would be exceedingly difficult, yea, utterly impossible,* to run a boundary in complete accord with the present reading of the description in the act of Congress; particularly on that part of the ground between the Montreal River and the head of the Menominee (the Brule), which comes nearest to the 'Lake of the Desert,' and from all the circumstances of the case, it is evident that another act of Congress will be required in relation to this boundary, to the end of defining it in such a manner that it can be established either upon the ground or laid down on a map with that degree of definiteness, which should always characterize a boundary line between two states."

It thus appears from the allegations of the complaint that Captain Cram did not survey in accordance with his instructions any portion of the line northwest from the head of Brule River and he did not survey any portion of any line westerly from Lac Vieux Desert and he reported positively that it was impossible to survey that portion of the line in accordance with the description of the boundary.

Not only does this appear, but by the complaint it appears that that portion of the boundary never was surveyed.

It further appears that these mistaken and false representations of Captain Cram became a part of the public record by being placed in a senatorial document on file in the Library of Congress and that there they have misled and

continued to mislead the officials of the government of the United States and of the State of Michigan, especially to the effect that the Lake there referred to as Lac Vieux Desert was the Lake of the Desert specified to be at the head of the main channel of the Montreal, but was not so located, and that, as a consequence Michigan's boundary as described in its grant of statehood, could not be laid down in the field (Complaint, pages 29, 40 and 41).

In addition to the foregoing erroneous features of Captain Cram's report, principally applicable to the Montreal River section of the boundary, that being the portion west from the head of Lake Brule, Captain Cram made various recommendations as to the course to be pursued regarding future actions to establish the boundary line and, in regard to the Montreal section of the boundary he said (Complaint, page 11):

> "There is no doubt of *Lac Vieux Desert* (as written on the map and *generally so-called)* being the identical lake with that which seems to have been intended in the description of the boundary and therein called 'Lake of the Desert,' and whose middle is made one point in the boundary. * * * (Italics are ours.)
>
> Lac Vieux Desert, now being known, might be brought into the boundary, by specifying some point within the periphery of the lake for one physical point in the boundary. All indefiniteness, much labor and expense, would be avoided by simply saying, in the law, that the highest point of ground (whether of earth or rock) upon middle island shall be the point, instead of saying 'middle of the lake.' It is also evident, that it should be specified how far up the Montreal the boundary shall extend before leaving for Lax Vieux Desert. For example: The law might specify that the boundary, in ascending, shall follow the extreme right-hand channel from the mouth of the river, up to where it shall be found to be intersected by a straight line drawn from the highest point of middle island to some specified point on Montreal River."

From the complaint it does appear that Michigan had already received its grant of statehood, including dominion and sovereignty to the line described in the act of cession, and Captain Cram having erroneously decided that portions of that line could not be laid down in the field recommended an amendment to that act which, if it could be accomplished, would establish a line different from the line of Michigan's grant.

The Menominee River Section.

Captain Cram also made some representations and recommendations as to the Menominee River section of the boundary and in his report (Complaint, page 13), said:

> "The center of the main channel 'of the Menominee River' is made a part of the boundary, the River contains numerous islands, and consequently more than one channel where these islands occur. It will be impossible in many of these cases to know which is the 'main channel' without minute surveys.
>
> * * *
>
> There are also a few islands in the Brule River to which similar questions might apply, in referring to the term 'main channel.'
>
> To avoid all ambiguity in reference to these channels, it might be specified in the act defining the boundary that, in descending the stream the boundary shall follow the extreme left-hand channel of the Menominee, down to a well known point in the river —say Pe-me-ne Falls; and thence to follow the extreme left-hand channel of the remainder of the Menominee to its mouth. Such a division would leave some of the islands in Michigan and the remainder in Wisconsin, and would avoid much expense, in minute surveys to ascertain the main channel, and would leave no indefiniteness on this part of the boundary. The free use of either channel for the purpose of navigation, would, from an established

principle of law, be open at all time to the citizens of either state, *and the islands would be nearly distributed in equal proportions between the two states.*" (Italics are ours.)

The complaint alleges (page 14) that not only did such recommendations ignore the right of Michigan under her grant of statehood, but *they misrepresented the facts, and, as a matter of fact all but one of the prominent islands in the Menominee River are below Pemene Falls,* and that such a division of the islands would be grossly unequal and grossly prejudicial to Michigan and would have granted to Wisconsin not only all the islands in the Brule, but practically all the islands of consequence in the Menominee River including the islands in the harbor near the mouth of the Menomine River.

The Green Bay Section.

As to the boundary through Green Bay Captain Cram, in his report, said (Complaint, page 14):

> "After descending the channel of the Menominee 'to the center of the most usual ship channel of Green Bay of Lake Michigan' the boundary is made to run 'thence through the center of the most usual ship channel of Green Bay, to the center of Lake Michigan.'
>
> From map No. 4 which accompanies this report, it may be inferred that the islands which are in the eastern part of Green Bay would cause several ship channels. It is a well known fact to all who have any personal knowledge of the navigation of this Bay that there are at least two ship channels, which are in use by all classes and kind of craft that navigate the Great Lakes. It would be next to an impossibility to collect testimony that would be necessary to decide the question which of these is the 'most usual' ship channel of Green Bay and it is not easy

> to conceive any other mode (than by testimony) by which the most usual ship channel could be ascertained. But suppose this method of collecting testimony practicable, it might occur that all the evidence that could be obtained on the subject would prove that one of these channels is just as much in use as the other; in which case it would only be shown that there is no such thing as the 'most usual ship channel' in this part of the Bay."

The report then suggests that the term "most usual ship channel" might be interpreted "the best ship channel" so that the same could be established by engineering.

He then suggests a complete description of the boundary that might be adopted all along this disputed line, but ignoring entirely the rights which Michigan then had under her grant of sovereignty.

That report bears date December, 1840, and was made a part of Senatorial Document No. 151 of the 26th Congress, second session and has remained of record in the Library of Congress from that time.

Following Captain Cram's said report, with its erroneous representations referred to, the legislature of the State of Michigan, for the purpose of assisting in an amicable adjustment of the boundary which was said to be impossible of survey, passed a joint resolution as follows (Complaint, page 15):

> "Whereas a critical examination of the topography of the country through which the boundary line between this state and the territory of Wisconsin must pass, appears to render a strict and literal conformity with the directions contained in the act of Congress establishing the same *IMPOSSIBLE;* and, whereas, the general intent of said act, it is presumed, can be attained without much difficulty; if said line be immediately marked and described, therefore,

Be it resolved by the Senate and House of Representatives of the State of Michigan that the Congress of the United States be, and they are hereby earnestly solicited to cause the line in question to be surveyed and marked; and that, simultaneously with the survey, a commissioner be appointed by the general government, to act, conjointly with the commissioner to be appointed by this state and who by concurrent action, shall so establish the boundary in question, if practicable, as shall be in conformity with the manifest general intent of the act of Congress." (Italics are ours.)

The word, impossible, being the same as used by Captain Cram in reference to the line shows, by inference that this resolution was based upon Captain Cram's report that the Michigan line was an *"impossible"* one. This resolution was communicated to Congress and became a part of a Senate document, which is found in Volume four of documents on page 186 in the records of the 26th Congress, second session, for the years 1840 and 1841.

The United States Congress did not act in accordance with said resolutions and did not appoint a commissioner to co-operate with a commissioner from Michigan for the purpose of determining said line, but said resolution, was in the Senate of United States, laid on the table, and apparently has there rested (Complaint, page 16). Following this, however, and on the 3rd day of March, 1841, in an appropriation bill, and by Section 3 thereof Congress did provide in regard to said boundary as follows:

"That for the purpose of designating and marking the boundary line between the State of Michigan and the territory of Wisconsin agreeably to the true intent and meaning of the second section of the act entitled: 'An act to establish the northern boundary line of the State of Ohio, and to provide for the admission of Michigan into the Union, upon the conditions therein expressed,' there be, and is hereby appropriated, the

sum of six thousand dollars, to be expended under the Secretary of War, *in the survey and examination of the country situated between the mouths of the Menominee and Montreal Rivers,* who is hereby directed to cause to be made a plat or plan of such survey and examination, which shall be returned to Congress with all convenient dispatch." (Italics are ours.)

Thus the complaint shows that no further survey of the Michigan boundary line was provided for or directed, but that, because of the erroneous report of Captain Cram to the effect that the boundary was an impossible one, Congress provided for and directed the War Department to have made a survey and map of the entire country between the mouths of the Menominee and Montreal Rivers, and, in the wording of the act, that survey and map was to be made to aid Congress in *designating and marking the boundary line* between the State of Michigan and the Territory of Wisconsin *in accordance with the description in the Michigan grant.*

Pursuant to this provision for a survey of that country, Captain Cram was again sent by the War Department to do the work, and he made his second expedition in the year 1841; his report of which is found in Senate Document 170, 27th Congress, second session, referred to in the bill of complaint on page seventeen. The War Department in instructing him as to his work, said (Complaint, page 17):

> "Your operations should have in view a correct delineation of the country between the head waters of the Menominee and Montreal Rivers, *so that all the matters requisite to determine a boundary between these two points can be laid before Congress.* A correct survey of these two rivers should also be made, which will probably be the extent of your operations for this year." (Italics are ours.)

Thus it must be acknowledged that by the complaint it is alleged that Captain Cram knew what his report recited and knew that he was making a map to aid Congress in fixing the line which he had reported could not be laid down.

The complaint further recites from Captain Cram's report of his said second expedition that, referring to his former work:

> "The conclusion was drawn, that there was not to be found existing in nature any continuous natural boundary—as had been supposed in the act of Congress defining the boundary—between the head waters of the Menominee and Montreal Rivers, and therefore, it became necessary to make a delineation of the country intervening between these head waters, and along in the intended direction of the route of this boundary."

This further shows convincingly that Captain Cram knew that he was not surveying a boundary in his expedition but was to aid Congress in trying to locate the boundary according to its original intent, occasioned by his having reported it impossible to locate it as described by Congress.

Captain Cram further reported that

> "accordingly the survey of this intervening district was commenced at Lac Vieux Desert (see map No. 1), the place where the operations stopped in the Autumn of 1840, and was extended in the direction, as nearly as could be ascertained, toward the head waters of the Montreal."

As further said in the complaint, the report showed that Captain Cram first mistook the Ontonagon for the Montreal, and afterwards discovered also that Lac Vieux Desert was the head of the Wisconsin River instead of the Montreal as he had at first supposed. By his report he further reported:

"Map No. 1 exhibits the head waters of the Montreal as they were subsequently found, and during the progress of our survey. The point designated 'astronomical station No. 2' *is the head proper of the Montreal River* of Lake Superior and is the junction of two inconsiderable streams, not more than twenty or thirty feet wide, called Balsam and Pine Rivers.

The latter of these streams was explored to its very head and found to come from a small lake and all its feeders are represented on the map (No. 1). This small lake was connected by an offset line with the main line of survey; so that if Congress should deem it necessary or expedient to constitute this little lake, which I have called Pine Lake, as the head of the Montreal River, its position will be accurately known." (The italics are ours.)

By his report, Captain Cram says he combines the five maps referred to therein, into a sixth map, and map No. 6 of his report is made Exhibit D of the bill of complaint. By said map, made a part of the bill, the bill is made to allege that Captain Cram reported the Montreal River as substantially a single stream with several branches running into it from the west and with lakes at the head of nearly all those branches. He did not report going to the west branch of the Montreal River at all or making any comparison between the east and west branches. By Exhibit E of the bill, made from surveys, it appears that gross inaccuracy occurred in map No. 6 attached to Captain Cram's report. Furthermore as to Captain Cram's report, it is alleged by the bill that he was informed that there was supposed to be a lake connected with the Montreal River, to which the boundary was to run, yet he arbitrarily reports that astronomical station (Complaint, page 18) at a point where the east branch of the Montreal is made up of two forks which he names the Balsam and the Pine is the head proper of the Montreal and he describes the lake at the head of the Pine as a very small lake, and the Pine and the Balsam as inconsiderable streams.

It is then alleged in the complaint (page 20) that the stream shown on the map and surveyed by Captain Cram is the lesser branch of the Montreal River and that the point marked by Captain Cram as the head proper of said stream is more than six miles north and down stream from the lake at its head now known as Pine Lake. Also that the west branch is claimed by Michigan to be the main channel of the Montreal River and was not mentioned by Captain Cram, or shown as such on his map, and that the said survey of the east branch of the Montreal made by Captain Cram does not purport to have been carried to the main channel of said Montreal River, except below the points where the east and west branches of the Montreal River unite, and that the main channel, later found to be the west branch of said Montreal River, was ignored by Captain Cram in making his said survey and that thus his survey did not meet the requirements of Congress to provide a map showing the situation of the whole country between the mouths of the two rivers, and he *then had no authority* to designate which branch was the boundary. He was mapping the country *to assist Congress in designating the line intended.*

In this connection and by reference to the survey of the Montreal River a map of which may be found in the Library of Congress, as having been made by Captain Cram at that time, although not attached to his report, it must be conclusively presumed, that Captain Cram did not survey the west branch. He shows detailed drawings of the east branch and calls that the Montreal River. It is significant that he generally indicates numerous rivers coming in from the west which are not shown in detail, and one of these, more nearly than any other taking the place of the west branch, he calls "Middle River," and it is fair to conclude that he recognizes this as the middle River of the Montreal System of Rivers, but as to why he calls it Middle River no explanation is made, and it is not so shown on any other map we have seen. It is thus seen that Captain Cram did not so survey, map and report the entire country between the mouths of the two rivers as would enable Congress to have a correct representation thereof, and he did not cor-

rectly represent on his map the west or main channel of the Montreal River. From the fact that it has since been determined by various parties that the west branch is the main channel, it may be seriously questioned whether Captain Cram made even a reconnaissance of the west branch, and it seems more probable that he or his assistants sketched those western branches of the Montreal, including the west branch, from inquiry, or from a very cursory running through of the country. At any rate he does not report any detail regarding them that could be intended as a guide to Congress.

Captain Cram's second report does confirm the position of plaintiff as to the fact that there were a large number of lakes between the heads of those two rivers that were called the Lakes of the Desert, or, more properly speaking, they were termed, in French, Les Lac Vieux Desert which, translated into English should not be called Lakes of the Desert, but, Lakes of the old deserted place, or old place. True he does not so name them in his report, but he does say (Compaint, page 20):

> "The country was examined laterally to the main line, and is shown by the dotted lines on the map; and it may be said there is no direction that can be followed from an assumed point as a center which will not lead into a series of small lakes, in this part of the country. These little lakes, so beautifully diversified in size, shape and scenery, are but the limpid springs which form the summit reservoirs that nature seems to have furnished with admirable foresight for a never failing supply for the Chippewa, the Wisconsin, the Menominee, the Ontonagon, and several smaller streams such as the Montreal, the Carp, the Iron, etc." * * *

Thus he does include all those lakes from the Montreal to the Brule as a collection of lakes, which accords with the map, Exhibit A of the complaint, naming them all Les Lac Vieux Desert, although it does not give others than the

principal ones of those lakes. It does include the lake at the head of the Montreal and at the head of the Brule there shown as a part of the Menominee.

In justice to Captain Cram and explanatory of the situation reported by him, the complaint does give (page 21) the lengths of his various lines including the statement that the whole length of the surveyed line from the head of the Montreal to the head of the Brule is 100 miles, 2199 feet, and commenting upon the fact that using Lac Vieux Desert as a point in the boundary would make an angle and that such an angle would make an awkward boundary, Captain Cram does say:

> "As there is no natural boundary to be had between the head waters of these two rivers—the Menominee and the Montreal—it would seem that a straight line from the head waters of one to those of the other would be much preferable to an indirect line composed of two which would make an angle with each other."

It is significant that if Captain Cram had in the first instance followed his instructions to survey the line in accordance with the Michigan act he would have found a line exactly in accord with the one just suggested by him—a line direct from the head of the main channel of the Montreal to the head of the Brule.

The complaint further emphasizes the fact of Captain Cram's mistaken idea of the boundary he was supposed to survey on his first expedition by quoting from his second report (Complaint, page 21), as follows:

> "To complete the boundary, however, either a direct or indirect line, *as Congress may see fit to designate,* will have to be run and marked out on the ground, for at least sixty miles *if the direct line be adopted,* and for more than that distance if the angular route be insisted on. *I say insisted on, for the present law makes 'the middle of Lac Vieux Desert' a point in the boundary.*" (Italics are ours.)

Here he again emphasizes the fact of his mistaken translation of the name "Lac Vieux Desert" to "Lake of the Desert" which he does in his original report by carrying the name "Lake of the Desert" into a parenthesis immediately following the name of Lac Vieux Desert, and it should be noted in this connection, that by calling Lac Vieux Desert the Lake of the Desert, the name used in the description of the boundary in connection with the lake connected with the main channel of the Montreal, he confounds the one lake with the other, and decides, erroneously, that Lac Vieux Desert is an essential point in the boundary when evidently it was not. The quoted portion of his report shows conclusively, also, that he did not consider that on his second expedition, he was surveying the boundary because of his reference to the boundary as a line which "Congress may see fit to designate" and again as, "if the direct line be adopted."

As a consequence the bill shows that the work of Captain Cram in his second expedition, not only through the country between the heads of the two rivers, but in surveying the east branch of the Montreal and reporting it as the Montreal, was not the work of a surveyor appointed to lay out and designate a definite line provided for, and cannot therefore be given the effect that is given to the official operations of a surveyor when directed to lay out or locate a certain definitely described line in which his judgment is often required to be used.

In addition to what we have already said as to the work of Captain Cram in surveying the east branch of the Montreal, we refer to the quotation from his report (Complaint, page 22), and his map, as confirming the position of plaintiff that he did not survey and report in detail any branch of the Montreal except the east branch and that is naming a point on the east branch six miles and more below the Lake at the head thereof, as the head proper of that river, he acted arbitrarily and without any authority.

Therefore, there must be a conclusion, from the statements in the complaint, that Captain Cram, through his two reports grossly misinformed Congress and the people as to several essential features necessary to be known in order to properly lay down on the ground the boundary line of Michigan as designated in its grant. He was himself mistaken as to what Congress thought as shown by his having used the incorrect map which was published by order of the Wisconsin Legislative Assembly and having supposed that to be the map or a copy of the map from which Congress drew the Michigan boundary line. He was wholly mistaken in his conclusion and report that Lac Vieux Desert, then and now so known, was the Lake of the Desert mentioned in the description of the boundary and he was mistaken in the further portion of his first report to the effect that the description of the boundary in the Michigan act was an impossible line and could not be laid down in the field. In his second report he made the mistake of taking the east branch of the Montreal as the Montreal River referred to in the boundary and of then surveying that in detail, and not surveying or reporting the west branch thereof in detail, and he made the further mistake of establishing the junction between the two forks of the east branch, which he calls the Pine and the Balsam, as the head proper of the Montreal. By the complaint it is shown that these two reports became public records as Senatorial documents and they misled the officials of the United States and the State of Michigan in connection with their then future dealings with that line and that the errors which so misled the people were not discovered until very recent dates.

Further considering the allegations of the complaint as to Captain Cram's reports upon the Menominee River and Green Bay sections of the boundary, we refer to page 23 of the complaint wherein by his first report, he refers to the Brule River as the branch of the Menominee named as a part of the boundary. It does not, however, show that he surveyed the main channel or located any of the islands therein with reference to the main channel.

Speaking of these two rivers he does say, in his second report:

> "The Brule and Menominee constitute a very good natural boundary; the precaution, however, should be taken of dividing the numerous islands so that some may fall within one, and the remainder within the other state. The number of islands in the Menominee amount to 131; 18 of the principal ones contain 2,304 acres; some of these are over one mile in length and from one-eighth to one-fourth of a mile in breadth and are covered with an excellent growth of Pine.
>
> Innumerable channels occur among the groups of islands, and the best way of disposing of the islands, would be, to declare, by legislative amendment, that all the islands down to a certain point (to be specified) shall belong to Michigan, and all below that point to Wisconsin. A case of litigation has already commenced, I am informed, in reference to one of these islands, and the court has been at a loss to decide, from not knowing to whose jurisdiction it belongs."

We have heretofore referred to his first report and recommendations as to these islands which was to the effect that Wisconsin be given all the islands below Peneme Falls and Michigan those above and his statement that such a division would be nearly an equal division between the two states, and to the fact that such a representation is erroneous because nearly all the important islands are below Peneme Falls and would have, had his recommendations been carried out, given practically all the important islands to Wisconsin. Further signifigance should be given to the fact that through this quotation from his report the complaint is made to show that the Menominee River was not so surveyed as to determine where the main channel runs and that it would be a difficult matter to determine where the main channel is in various parts of the stream; thus making it absolutely necessary that a survey be made in order that each state know to which the several islands belong.

He again refers in his second report to the line through Green Bay (Complaint, page 24), where he says:

> "It only remains necessary to make the survey of the channels of Green Bay, and of the lower part of Menominee River. Then, and not until these surveys shall have been completed, will the survey be finished, to leave nothing more to be desired."

Therefore, by the said quoted report it is shown and charged in the complaint that the survey through Green Bay has never been made and that it cannot be known where the line runs until such survey is in some way made. It is evident, from the language of the description, making the most usual ship channel the boundary, that that line must be established by evidence and that is one of the features of the bill and one of the reasons for bringing this action. The bill does allege as the claim of Michigan that a proper establishing of that line would leave certain important islands within the Michigan boundaries that are now claimed by Wisconsin.

It therefore conclusively appears by the reports of Captain Cram that surveys are necessary in order to establish the boundary line of Michigan down the Menominee River and through Green Bay and that no such surveys have been had.

December 14th, 1842, following the filing of said second report of Captain Cram, a bill was introduced in the 27th Congress, third session, being Senate Bill No. 9, to amend the act which admitted Michigan into the Union but so changing its northwestern boundary as to make the same read substantially in accordance with the boundary at present claimed by the State of Wisconsin, but in said bill there was a proviso as follows (Complaint, page 24):

> "That the adjustment of boundary as fixed in this act shall not be binding on Congress, unless the same shall be ratified by the State of Michigan on or before the.....day of....., 1847."

Said bill failed of passage in the House. It was reintroduced as Senate Bill No. 6, December 15th, 1843, in the 28th Congress, first session, and again failed to become a law.

These items not mentioned in defendant's brief we believe, are significant from two points of view, first, that by the insertion of the proviso, Congress recognized that it could not change Michigan's boundary unless such change was ratified by Michigan, and, second, the fact that such a bill, which might effect a change of Michigan's boundary, introduced in two separate Congresses, failed of passage, which in effect was a rejection by Congress, probably influenced by Michigan, of the attempted change of boundaries.

Thus Michigan's rights under her boundary as described in her statehood act of June 15th, 1836, remained unchanged and with requests for a change refused by Congress when, August 6th, 1846, Congress passed the Wisconsin enabling act.

At that time the people of Wisconsin Territory abandoned their territorial boundary along the line in question, and described a new, proposed boundary following to a large degree the recommendations of Captain Cram (Complaint, page 25). That boundary runs *with the Michigan boundary* through Lake Michigan and Green Bay to the mouth of the Menominee River. From there, while it follows the Menominee River and the Brule River, it does not designate the main channel of each of those streams but does provide:

> "To prevent all disputes in reference to the jurisdiction of the islands in said Brule and Menominee Rivers, the line be so run as to include within the jurisdiction of Michigan all the islands in the Brule and Menominee Rivers (to the extent to which said rivers are adopted as a boundary) down to and inclusive of the Quinnesec Falls of the Menominee, and from thence the line shall be so run as to include within the jurisdiction of Wisconsin, all the

islands in the Menominee River from the Falls aforesaid, down to the junction of said river with Green Bay."

It will be noticed that this description of the boundary through the two rivers Menominee and Brule varies from the recommendations of Captain Cram in that it proposes giving to Michigan the few small islands in the Brule River but it stops with Michigan's islands at Quinnesec Falls instead of Peneme Falls, and proposes to give to Wisconsin all the islands below Quinnesec Falls, which as a matter of fact would be giving Wisconsin all the important islands of the two rivers.

From the head of the Brule River the proposed Wisconsin boundary, instead of running to the Lake of the Desert which was at the head of the main channel of the Montreal, runs as Captain Cram proposes and in accordance with his conclusion that Lac Vieux Desert was an essential point in the boundary, from the head of the Brule River to a point in Lac Vieux Desert and from there to the point on the east branch of the Montreal which Captain Cram arbitrarily described as the head of that river, instead of to the Lake at the head of the west branch, or main channel of the River Montreal then known as one of the Lakes of the Desert, but now known as Island Lake, and from Captain Cram's arbitrary location of a head for the Montreal River more than six miles below the lake at the head of the east branch thereof the line is made to run down the east branch, instead of the main channel, to the point where the Montreal forks into the west and east branches, and then in the proper course to Lake Superior.

After describing such a line for Wisconsin's proposed boundary, which materially differed from the boundary of the State of Michigan, not only because of the change in regard to the Islands in the rivers but because of the change occasioned by the mistakes of the engineer in his reports of the Montreal River section, Congress inserted in the Wisconsin Enabling Act this provision:

> "That the adjustment of boundary as fixed by this act between Wisconsin and Michigan shall not be binding on Congress unless the same shall be ratified by the State of Michigan on or before the 1st day of June, 1848."

It is therefore made apparent by the bill that Congress still continued to recognize that it had conveyed to Michigan the right of sovereignty and domain to the boundary line as described in the Michigan act and that it could not grant to Wisconsin anything within those Michigan boundaries except on the express ratification of Michigan and it thus provided that such ratification must be had within the period specified which was nearly two years.

By this Wisconsin knew that she had no grant from Congress of any territory that might be within the lines of the Michigan boundary, or rather that her grant would not be effective unless she got the ratification of Michigan within the date specified.

Michigan did not ratify Wisconsin's proposed boundary and therefore and by failing so to do said to the world that she rested on her boundary as described in her act of statehood.

The matter then rested before the people upon the showing that Michigan was entitled to the boundary as described in her act and was insisting upon those lines in so far as they could be laid down, but, with the representation of Captain Cram, who history tells us was a great and usually dependable engineer, and who was captain in the department of Topographical Engimeers of the War Department of this government, remaining in the public records. His report stated to the world that the Michigan line could not be laid down because of geographical conditions, and that Lac Vieux Desert, more than sixty miles from the head of the west branch of the Montreal, was an essential point in the boundary and that the stream we now know as the east branch of the Montreal was the Montreal River,

or the main channel as described in the Michigan Act. In this connection it must be considered as the bill shows that at that time that portion of the country was a vast and complete wilderness and knowledge of its geography was but very scant; therefore much, if not complete, reliance was placed upon the report of Captain Cram upon the points mentioned and it was reasonably supposed that because of geographic conditions the Michigan line could not be exactly laid down, but that Wisconsin's proposed line was practically the same as the Michigan line was by Congress intended to be.

The allegations of the bill to the effect that Captain Cram's report misled the people to believe that the line claimed by Wisconsin was not materially different from the line of the Michigan grant is supported by Captain Cram's first report, and we refer to the passage beginning at the bottom of page eight (Document, 151), of that report where he says:

> "With the modifications now respectfully suggested the description of the boundary would be to the following effect, to-wit:
>
> > 'To the mouth of the Montreal River (Lake Superior); thence (in ascending) through the center of the extreme right-hand channel that the said Montreal River may be found to have, as far up the same as where the said channel shall be found to be intersected by a direct line drawn from the highest point of ground on Middle Island of Lac Vieux Desert, north * * * degrees west, thence (from the said intersection) along the just described line, to the said point of Middle Island; thence (from the said point of Middle Island) in a direct line to the center of the channel of the outlet of Lake Brule, thence following the center of the extreme left-hand channel of the Brule River (Wesacota Sepe) down to the middle of the channel of the Menominee River; thence following the center

> of the extreme right-hand channel of the Menominee River, down the same, to the head of the Pe-me-ne Falls; thence following the center of the extreme left-hand channel of the Menominee River, down to the center of the best ship channel of Green Bay of Lake Michigan; thence following the center of the best ship channel of Green Bay to the middle of Lake Michigan.'
>
> *Such a description as this, if authorized by Congress, would allow the boundary being established without any material difficulty; and it would cause no material departure from what is conceived to have been the intention of the law as it is now worded.* The proposed description would moreover *leave the State of Michigan and the territory of Wisconsin with nearly the same relative quantities of territory as they would have respectively possessed had the Montreal, and the Menominee and Lac Vieux Desert, been found situated as was supposed in* framing the present law of the boundary." (Italics are ours.)

Not only does the bill show by allegations but it is made definite by Exhibit E made from surveys, that that representation was wrong and that all the variance in the lines is at the expense of Michigan and no part of any variation is taken from the territory of Wisconsin, unless, possibly a few small islands in the upper rivers.

It might be further noted in this connection that had Captain Cram's suggestion been followed in full he would have ascended the right-hand channel of the Montreal River, which is the west of the two principal branches. His suggestions seem only to have been followed in making up the Wisconsin proposed boundary where the suggestion would operate to the benefit of Wisconsin, and as may be justly inferred from allegations of the complaint, this was occasioned because the principal citizens of Wisconsin then lived at Green Bay, which was the principal town in Wisconsin and only fifty miles distant from the mouth of the Menominee River, where they could get at all known facts

regarding the Country, while Michigan had no one interested in this part of the boundary, living nearer than the City of Detroit many hundred miles away.

The fact that it was a wilderness of the wildest kind, as alleged in the bill, is further shown by the concluding section of his said first report which says:

> "Owing, however, to the absence of all facilities in a wilderness like that of the route of this boundary, the costs of the necessary operations for establishing the boundary between the mouth of the Montreal and Lac Vieux Desert, thence to the outlet of Lac Brule will not be less than ten thousand dollars;"

and the final winding up clause of that paragraph reflects the truth of the plaintiff's position as to the survey of Green Bay where he says:

> "and the cost of the survey of the eastern part of Green Bay to discover the best ship channel, will be not less than three thousand dollars."

In that connection it should be noted that he anticipates that the description of the boundary will be so amended as to name the BEST instead of the *most usual* ship channel, but, that even then he expects the best ship channel will be in the *eastern part* of Green Bay.

We further refer to and quote from his second report to emphasize not only the allegation but the proofs of some of the essential elements of the bill (page five Senate Document 170 aforesaid) where in writing of the Montreal river he says:

> "The head proper of the Montreal is to be regarded, as before stated, at the junction of the Balsam and Pine."

And on the same page:

> "The Montreal is but a secondary stream, to say

the best for it. It presents, however, a great variety of beautiful scenery, *and the extreme wildness of its features* possess peculiar charms for the lovers of the picturesque." (The italics are ours.)

On page six of the same report he says:

"Lastly: the five maps, which, until now, have been separately considered, all combined by a proper connection of the lines of the survey, form a general map, No. 6, *so as to exhibit*, on a scale of twenty miles to one inch *the whole route of the boundary all the way through from Green Bay of Lake Michigan to Lake Superior; also all the parts of Michigan and Wisconsin, which can possibly be supposed to have any bearing, either direct or indirect upon the question of the boundary.*

This general map has been compiled with care, and it is presumed to have all the accuracy that can be desired for the immediate object in view."

From this not only Congress, but the public at large were informed by an authority as high as the Captain of Topographical Engineers of the War Department, that that map exhibited a substantial geography of all the features essential to laying down the boundary line as in the Michigan Act. Nevertheless it is now shown that it did not represent, if at all, with any degree of accuracy, the west branch of the Montreal River, which the complaint now shows to be the main channel of that river and the one designated as the boundary of Michigan.

In the appendix to that report (page 8), Captain Cram further says:

"The importance of the portion of country lying between Lakes Superior and Michigan, and through which the route of the boundary passes; the indirect as well as the direct bearing which the portions of country adjacent thereto may well be thought to have upon the definite settlement of the question

of this boundary, seem to require a general map, representing an area of the earth's surface of ten degrees in longitude and eight degrees in latitude. Accordingly, this map has been constructed to represent that portion of the terrestrial surface embraced between meridians whose longitudes are eighty-four degrees and ninety-four degrees west of Greenwich, and between the parallels forty-one degrees and forty-nine degrees north latitude."

Thus again Captain Cram places emphasis on the accuracy and the importance of this map which does not show the west branch of the Montreal and which does show the head proper of the east branch of the Montreal to be more than six miles down river from the Lake at its head, which lake he belittles by representing it as a small lake, and he gives to the river leading to that lake and the lake, the names of Pine River and Pine Lake, thus misleading the people to believe, as he had reported in his first report, that there was no lake at the head of the Montreal River, and that, therefore another point in its course had to be selected for the departure of the boundary line towards the source of the Menominee River, and, by his report he gave his reason for fixing that point as the head proper of the Montreal, in the fact that the Balsam and the Pine, so-called by him, coming together at that point were "inconsiderable streams" above that point.

That map six which he refers to is Exhibit D of the complaint, and by an examination thereof it can be readily seen that a person examining it would be led to believe that Captain Cram's representations as to there being no material variances in the proposed line from that of the Michigan boundary was correct, and they had the right to rely thereon and did so.

From all the foregoing it appears that, even though it had been represented that Wisconsin's proposed line was substantially the same as the Michigan boundary, yet, Congress had refused to assert the correctness or to definite-

ly establish the Wisconsin boundary and Michigan had failed to assent to or ratify Wisconsin's. In this condition, in the year 1850, the State of Michigan adopted a new constitution and therein recited a description of that portion of the boundary now in question, as follows (Complaint, page 29):

> "To the mouth of the Montreal River; thence through the middle of the main channel of the River Montreal to the head waters thereof; thence in a direct line to the center of the channel between Middle and South Islands in Lake of the Desert; thence in a direct line to the southern shore of Lake Brule; thence along said southern shore and down the River Brule to the main channel of the Menominee River; thence down the center of the main channel of the same to the center of the most usual ship channel of Green Bay of Lake Michigan; thence through the center of the most usual ship channel of the said Bay to the middle of Lake Michigan."

The complaint charges that by said description the constitution of the State of Michigan re-affirmed its claim to all the territory on the Michigan side of the main channel, that being west branch of the Montreal River to its head waters, that being Island Lake, but that from there the line was diverted from its proper course which should have run to the head of the Brule River, to the point named in Lac Vieux Desert or Lake of the Desert, as is mentioned, because said report of said Captain Cram had asserted that said lake was the lake referred to in the description of the boundary in the Michigan Act and was an essential point in the boundary, and that the geography of the country was not sufficiently known to inform the members of the constitutional convention, or the people of Michigan otherwise.

This assertion is substantially proved by the references to the reports and the maps heretofore had, and the essen-

tial deductions therefrom and from the discussions in the convention.

We desire especially to call the attention of the court to the fact that by this constitutional provision Michigan did expressly reaffirm its right to the middle of the main channel of the Montreal to its head waters, and it did expressly reaffirm the fact that its boundaries followed the main channel of the Menominee River and the most usual ship channel of Green Bay.

It is further alleged (Complaint, page 30) that in 1867 Michigan had another constitutional convention which formulated a constitution that was thereafter submitted to the electors of Michigan but was defeated, and it is shown that in that proposed constitution the description of the said boundaries in said respects more nearly followed the boundary as described in the Wisconsin act, and said description as set forth in that proposed constitution is set forth on said page thirty of the Complaint. It will be noted, that although the description of the boundary as specified in said proposed constitution was made through misinformation to more nearly follow the recommendations of Captain Cram by mentioning the head waters of the Montreal as being marked on the survey made by Captain Cram and did run said line to the said so-called Lake of the Desert and from thence to the shore of Lake Brule, it again reasserted Michigan's boundaries as running down the main channel of the Brule River, to the Menominee River and down the main channel of the Menominee River to the center of the most usual ship channel of Green Bay of Lake Michigan and thence through the center of the most usual ship channel of Green Bay to the middle of Lake Michigan.

It is asserted (Complaint, page 31) that it was not then known by the members of said convention that any mistakes had been made by said Captain Cram in his said report and it was not then known that there was really any discrepancy between the line of boundary as described in

said Wisconsin statehood act and that described in Michigan's statehood Act, and that it was argued by members of the convention that there probably was none and it was important to have the question of the line settled, while on the other hand there were arguments that if there were any mistakes regarding said boundary, by the adoption of the proposed description in the proposed constitution, valuable rights of Michigan might be forfeited. It is further alleged that although that constitution with the proposed change in the boundary to accord in part with Wisconsin's proposed boundary, was submitted to the people of the State of Michigan, the people refused to adopt the same, and thereby refused to adopt or ratify the boundary line as described by Wisconsin.

The State of Michigan should have the right to submit its proofs to substantiate these allegations though, in fact, they are substantially supported by the documentary evidences found in the proceedings of that convention and in the reports and maps above referred to, combined with the fact that that country was a wilderness during all that period so that no one would have any occasion to learn that there was a discrepancy between the described line of the Michigan boundary and that claimed by Wisconsin.

It is the claim of Michigan as alleged in its complaint that the various errors in the reports and maps above referred to and in the improper locating of the east branch of the Montreal as a boundary line for Michigan, remained undisclosed to the people of Michigan until about the year 1885 and that from that time on, from time to time, different elements of the situation were discovered by individuals, but none of the said errors came to the attention of the officials of the State of Michigan until 1907 and then only as to the error in locating the east branch of the Montreal as the boundary. It is also asserted that the error of Captain Cram in declaring and reporting that Lac Vieux Desert was the Lake of the Desert referred to in the boundary, and his report that the Michigan line could not be laid down in the field was an error, and also

the fact that Islands surveyed in the Menominee River as being a part of Wisconsin were in reality on the Michigan side of the main channel, and that Islands in Green Bay surveyed by the government as being in the state of Wisconsin were in reality on the Michigan side of the most usual ship channel only came to the attention of the officials of the State upon the reports of the present commission made in the year 1921, and thereafter.

For a little more in detail upon this point it is alleged (Complaint, page 31) that about the year 1885 George H. Cannon, an engineer, on a private mission, went into the wild region of the Montreal River and there discovered that the west branch of the Montreal River was the main channel and that the east branch, a minor channel had been surveyed and reported by Captain Cram as the boundary. It is there further alleged that as time afforded said Cannon made a study of the matter and brought the same to the attention of Hon. Peter White, who in turn brought the same to the attention of the attorney general of Michigan in or shortly prior to the year 1907, *when the State,* through its officers, *for the first time* learned that that part of the boundary along the Montreal River and from there to Lake Brule had been improperly located, and had not been located in accordance with or agreeably to the provisions of the Michigan statehood act of June 15th, 1836, and that, in February, 1907, the Michigan legislature adopted a joint resolution providing for the appointment by the governor of a resident of Michigan to present the matter to the legislature of Wisconsin with a view to the settlement of the boundary through a joint commission. That said Hon. Peter White was appointed to act for Michigan in that regard and through correspondence and by a personal visit to the governor and to the committee of the legislature of Wisconsin, said White attempted to secure an amicable adjustment between the two states as to the said boundary, but he was met with a refusal on the part of Wisconsin to join in any attempt at such adjustment of said boundary line. That Mr. White

duly reported to the Michigan Legislature the result of his mission, and, May 29th, 1907, the Legislature passed a concurrent resolution (Complaint, page 32) directing the Attorney General to cause a survey to be made, and to institute the necessary proceedings in the court or otherwise to secure a determination of the correct boundary line between the State of Michigan and the State of Wisconsin.

Certainly that is an allegation in the bill of complaint as to the first time and the manner in which the errors of Captain Cram, and the transgressions of the State of Wisconsin, were brought to the attention of the officials of the State of Michigan.

The complaint further alleges (page 32) that investigation was started by the then Attorney General, and an engineer was employed to make some investigations of the matter of the boundary, but that no survey was made, and the complaint alleges that the investigation was not complete and no report thereof was filed by the then Attorney General (whose term of office expired before the investigation could be fully completed). Upon this point we will say to the court, that the plaintiff expects to prove that in conducting the investigation that was started in 1907 considerable reliance was had on the assistance of said Hon. Peter White who lived in the Upper Peninsula of Michigan and had interested himself in the matter, but that he became ill and died in the year 1908, and that fact may account in part for such delays as occurred in conducting the investigation, and the plaintiff expects further to prove that the nature of the questions involved, and the broad scope of the many elements involved, rendered a complete investigation thereof practically impossible, other than by a person who could give practically his undivided attention thereto, and even then short of several years work therein.

The bill of complaint (page 32) further asserts that in 1908 Michigan adopted a new constitution and therein set

forth that portion of her boundary now in question, in words as follows:

> * * * 'to the mouth of the Montreal River; thence through the middle of the main channel of the westerly branch of the Montreal River to Island Lake, the headwaters thereof; thence in a direct line to the center of the channel between Middle and South Islands in the Lake of the Desert; thence in a direct line to the southern shore of Lake Brule, thence along said southern shore and down the River Brule to the main channel of the Menominee River; thence down the center of the main channel of the same to the center of the most usual ship channel of Green Bay of Lake Michigan; thence through the center of the most usual ship channel of said Bay to the middle of Lake Michigan."

Thus it will be seen that after the information gained through Mr. Cannon as to the fact that the east branch was not the main channel, it did on its first opportunity, in so effective a manner as making its constitutional boundaries specific, positively assert the Montreal River section of its boundary as following the center of the main channel of the *west branch to Island Lake, the head waters thereof* and it again reasserted the main channel of the Menominee and the Brule Rivers and the most usual ship channel of Green Bay as being its boundary, but it did diverge from its rightful boundary between Island Lake and the head of the Brule River, by making an angle with Lac Vieux Desert, therein called Lake of the Desert, as a point in the boundary.

The complaint alleges (page 33) that the said boundary described in said constitution was allowed to deviate from the real boundary of Michigan as described in its grant because it was still believed, as a result of Captain Cram's first report, that Lac Vieux Desert, called Lake of the Desert in said last mentioned constitutional description, was the Lake intended by Congress to form a point in the

boundary and was therefore an essential point in such boundary, *and it was not* known to the members of said constitutional convention or to the officers of the State of Michigan, or generally to the people of the State of Michigan, that, at the time of the admission of Michigan into the Union, there were a large number of Lakes of the Desert, and they were misled in the description of said boundary and named the point between middle and South Island in said Lake of the Desert as a point in said boundary because of said misrepresentations contained in said report of said Captain Cram and in the belief occasioned thereby that said Lake of the Desert there referred to was the Lake of the Desert designated in the boundary as described in the Michigan grant of statehood, as represented by said Captain Cram in his said report.

Far from being an act of acquiescence in Wisconsin's claims, this was a positive act asserting Michigan's rights so far as Michigan then knew them, and consequently so far as Michigan could be expected to assert them.

The Burt Survey.

One feature of the transactions set up in the bill of complaint (page 27) referred to the Burt survey of Cram's line and by defendant's brief on the motion it is claimed that in submitting thereto Michigan acquiesced in the Wisconsin line. The facts in regard to that survey, as so set out in the complaint are to the effect, that August 10th, 1846, only four days after the passage of the Wisconsin Enabling Act, in which its claimed boundary was made conditional on the ratification thereof by Michigan, Congress included in its general appropriation act there referred to, a provision there quoted, as follows:

> "Sec. 4. And be it further enacted that the surveyor general northwest of the Ohio, under the direction of the president, be, and hereby is required to cause to be surveyed, marked and designated, so

> much of the line between Michigan and Wisconsin as lies between the source of the Brule River and the source of the Montreal River, *as defined by the act to enable the people of Wisconsin territory to form a constitution and state government,* and for the admission of such state into the Union, and the expense of such survey shall be paid, upon the certificate of the Surveyor General, out of any moneys in the Treasury not otherwise appropriated, not exceeding *one thousand dollars.*" (Italics are ours.)

In this connection we call attention to the fact that pursuant to this appropriation the Burt Survey was made, not of the Michigan boundary line, but of the conditional Wisconsin line that had been recommended by Captain Cram, which boundary was specifically designated in the Wisconsin act (Complaint, page 25), as running from Lake Brule,

> "in a direct line to the center of the channel between middle and south Islands, in the Lake of the Desert; *thence in a direct line to the head waters of the Montreal River, as marked upon the survey made by Captain Cram;*" (The italics are ours.)

It will thus be seen that Mr. Burt had no discretion left to him, but he was to locate the conditional Wisconsin line as it had been reported by Captain Cram, from the head of Brule Lake through Lac Vieux Desert, called there Lake of the Desert, to Captain Cram's monument, arbitrarily marking as the head proper of the Montreal, the junction of two forks of the east branch thereof, so, in that regard Mr. Burt's action was simply ministerial. Furthermore, it was provided for within the period when the Wisconsin line was *expressly* conditional, that is within the practically two-year period which Wisconsin had in which to secure the ratification of the line by Michigan.

The bill then (page 34), recited the entire description of Wisconsin's claimed boundary as set out in her constitution,

adopted in 1848, and still remaining in force, and showing that there is serious conflict between Wisconsin's claim to the boundary as set out in her constitution and Michigan's claim to the boundary as set out in her constitution and as the same has been claimed by Michigan in some of its parts at all times. It is however, distinctly shown that Wisconsin by her constitution claims the boundary through Green Bay *to run with the Michigan boundary* and likewise agrees with the Michigan boundary by following the main channel of the Menominee River to the Brule River.

By this the bill is made to assert that Wisconsin, through her constitution, has yielded to Michigan's boundary through Green Bay and the Menominee River and Michigan has been permitted to understand that Wisconsin made no claims to any of the Michigan Islands in either of those waters, though, notwithstanding that fact, Wisconsin has possessed them.

Montreal River Section.

As to the Montreal River Section of the boundary, that is from the mouth of the Montreal River to the head of Lake Brule the complaint details the grant to Michigan, and the readiness with which the boundary described in the grant could have been laid down, and the errors made in the report to the effect that it could not be laid down, and the further error made in the report that the boundary recommended by Captain Cram was substantially the same and would leave to Michigan and Wisconsin, respectively, practically the same amount of territory that was intended by Congress in describing the Michigan boundary, as well as the facts that caused Michigan to rest in the belief that the line was substantially the same and that Wisconsin made no claims to any land within the rightful Michigan boundary, and thus the delays in claiming rights recently found to exist but concealed from view because of those misrepresentations and mistakes have been fully explained and justified.

The Menominee River Section.

As to this section the complaint (page 36) outlines the claims of the respective parties and we have shown that Michigan has repeatedly asserted that the boundary was along the main channel of the river, while Wisconsin's constitution has asserted the same. It is shown that many islands on the Michigan side of said main channel have, as a matter of fact, been surveyed by the government in connection with the surveys in Wisconsin, but that such fact was unknown to the officials of Michigan until within the last three years.

These allegations the plaintiff claims the right to support, and it can support the same by much oral and other testimony. Further in regard thereto it is alleged and it likewise appears by both reports of Captain Cram that it is practically impossible to know where the main channel of the Menominee River is without a minute survey thereof and it is important to the interests of both states, for various reasons including questions of jurisdiction, that that line should be surveyed and that it never has been surveyed.

The Green Bay Section of the Boundary.

As to this section of the boundary it is shown by the bill of complaint that the line as described in the Wisconsin Act agrees with or is made to follow the Michigan boundary, and it is also asserted that the boundary through Green Bay is described in Wisconsin's constitution to accord with the boundary described in Michigan constitution, but that, nevertheless, Wisconsin lays claim to and exercises possession over a large number of named and other islands in Green Bay that are on the Michigan side of the most usual ship channel referred to in Michigan's boundary description; that is the most usual ship channel of Green Bay as it existed in 1836.

It is alleged that said boundary line never has been surveyed and that it is important that it should be.

With the existing extensive differences in the various parts of said boundary line as shown, it is alleged in the bill (page 39) that Michigan has made two separate attempts to have Wisconsin join in an amicable adjustment of the differences existing, one in 1908 and the other in 1921, but that in each instance Wisconsin refused to join in such an adjustment.

ARGUMENT.

Plaintiff therefore asserts that by the complaint it is alleged and shown:

1. That Michigan holds the prior grant to all the territory in dispute.

2. That the boundary of Michigan's grant was and is capable of definite and positive location in all points where the same remains in dispute.

3. That there was gross error on the part of the Federal Government officials in erroneously reporting important facts in regard to the location of the boundary and in reporting that the boundary as described in the Michigan act could not be laid down in the field, and in asserting that the recommended boundary was substantially the same as was intended by Congress in the grant to Michigan and would give to each, Michigan and Wisconsin, the same amount of territory as was intended by Congress in describing the boundary in the Michigan act.

4. That said errors and misrepresentations were emphasized by the publication of a map, on authority of the territorial legislature of the State of Wisconsin, which erroneously represented the geographic conditions, and aided in misleading the engineer Cram who so reported that the Michigan line was an impossible line.

5. That in all dealings on the part of Michigan that have had to do with that line, Michigan has been

misled by the said false reports and mistakes of the said representatives of the Federal Government and the said legislature of the Territory of Wisconsin.

6. That Michigan never has in any way directly acted so that she could be said to have assented to, or acquiesced in, the wrongful claims of Wisconsin to the portions of the territory now in dispute, or any part thereof.

7. That Michigan has repeatedly reasserted her claims in a positive manner to considerable portions of said disputed territory, so that she could not possibly be said to have acquiesced in a claimed right of Wisconsin thereto, and Michigan has, in every instance where its rights have been transgressed, asserted those rights immediately on learning of the transgression thereof.

8. That a large portion of Michigan's boundary through Montreal section thereof and that through the Brule and Menominee Rivers and through the waters of Green Bay, has never been marked.

9. That there are witnesses to testify as to certain features of the complaint (Complaint, page 38).

10. That it is important to both states from a jurisdictional standpoint, as well as from territorial and taxation standpoints, that such line be established.

11. That Michigan has twice not only invited but urged Wisconsin to join in proceedings for an amicable adjustment of said line, but Wisconsin has in each instance refused absolutely so to do.

Therefore, we submit that the bill of complaint states a cause of action as to each and every section of said disputed boundary.

Defendant's Claims as to the Right to Use Public Documents, in Connection With the Complaint, in Placing a Construction Thereon.

1. Plaintiff claims that a motion to dismiss an action must rest entirely on the allegations of the Complaint, unless it *conclusively* appears that, by the use of evidence of which the courts take judicial notice, all the evidence on the subject is before the court, and by it essential elements of the complaint are contradicted.

We take it, from the authorities cited by defendant, that we are in agreement upon this point.

In addition we cite *Sec. 1343 Streets Fed. Eq. Practice, Vol. 2, page 814,* where it is said:

> "As a motion to dismiss is a summary method of proceeding, the ground on which the motion is based must be both manifest and conclusive."

Therefore, unless it is *manifest* that the public documents referred to by defendant furnish *conclusive* proof to defeat some material allegation of the complaint, such documents do not effect the purpose for which defendant offers them.

In none of the cases cited by defendant was a motion to dismiss granted except where it clearly appeared that all evidence was before the court, or where the complaint failed to state a cause of action and the plaintiff declined to amend.

2. Plaintiff claims that none of the documents cited, or referred to by defendant in its brief, contradict any essential allegation of the complaint, and that it in no way appears that offered evidence of which the court may take judicial notice constitutes all the evidence that may be produced upon the point involved, but that, on the contrary,

the showing is that there is much more documentary evidence, of which the court may take judicial notice, than that referred to by defendant, much documentary evidence of which the court may not take judicial notice, and oral evidence which plaintiff expects to produce in support of the complaint, and that such evidence is so extensive and of such a nature that it is impracticable, if not impossible to present the same upon a hearing on a motion.

For these reasons, and because the complaint is shown to state a cause of action, this motion should be denied.

Defendant's Reasons For Asking That the Case Be Dismissed, As Set Out In Its Motion.

Under the general alleged reason that the complaint and action should be dismissed, because that:

> "From an examination of the complaint and a consideration of those matters of which the court takes judicial notice, * * * it affirmatively appears that the complaint fails to state a cause of action,"

the defendant makes subdivisions (Motion, page 2), as follows:

> "1. Because the records and proceedings so referred to contradict the allegations of plaintiff's complaint in such material respects that when the true facts are substituted for such contradicted allegations it affirmatively appears that the plaintiff has no claim whatsoever.
>
> 2. That upon consideration of the same matters, it appears that as to any claims which may at any time have existed, assuming the allegations of plaintiff's complaint to be true, it affirmatively appears that the plaintiff is now barred from asserting them by reason—
>
> (a) Of long acquiescence in the boundary as claimed by the defendant.

(b) That within the rules laid down and the decisions made by this court, the plaintiff's claim is stale.

(c) That failure to assert the claims now made has resulted in the creation of rights and interest in reliance upon the present boundary, which, if now disturbed, would result in hardship, inconvenience, confusion and injury to persons not now parties to this proceeding, as well as to the defendant.

(d) That within the familiar rules of equity applicable to actions of this kind, relief at this late date should be denied."

By Defendant's Brief.

The same general reason is alleged (pages 1 and 2) but the defense of

Acquiescence

is emphasized, and is given practically entire attention, and we have therefore concluded to give that element of the defense (Subdivision a of reason 2 above) our first consideration.

In this connection we reassert that under the topic of "Issues Presented by Motion" (Defendant's Brief, pages 2 and 3), Michigan's proposition, or theory of the case, is misconstrued, and Michigan does not claim there was any *"ambiguity"* or *"uncertainty"* in the description of its boundary as worded in its grant. Michigan does claim, as in defendant's brief stated (page 2), that by reason of Michigan's prior grant, in connection with becoming a state, her rights are paramount to those of Wisconsin in all instances where Wisconsin's claimed boundary conflicts with that of Michigan.

The defendant states, as its position upon the law (Brief, pages 2 and 3) that:

> "The motion of the State of Wisconsin rests primarily upon the well established principle that long continued acquiescence by the complaining state in a boundary line not conforming exactly to the description of such boundary line as contained in the grant to such state, and long continued exercise of jurisdiction over the territory in question by the defendant state, coupled with a general recognition and acceptance of such boundary line, operates to validate it and vest in the defendant state from the beginning a valid title by prescription or a right in the nature of a prescriptive right, and that the right so established and recognized takes effect, not as an alienation of territory, but as a definition of the true or ancient boundary."

The plaintiff takes this occasion to express its disagreement with the claim that there is any such a broad general rule, or that there is any such a rule applicable as against a state, and to claim that the authorities cited do not support such a claim, and, further, to claim that if there was such a broad general rule it would not support this motion because the allegations of the complaint, or the allegations of the complaint taken in connection with other matters before the court, serve to keep this case without the provisions of such a rule.

In view of the defendant's stated position upon its defense of *asquiescence* the

Plaintiff's Claim

in this regard should be stated, and the same is:

1. That, as a general rule, acquiescence, and other kindred defenses such as laches and the statute of Limitations, are not available as against an action by a state, and such a claim is not available as a defense upon the showing now before the court in this case.

2. That if the defense of acquiescence is ever

available as against a state, such acquiescence must have been express and positive, by proper authorities, and with a full knowledge of the facts as to the matter in which acquiescence is claimed, in other words, that, as against a state, *if acquiescence is ever a proper defense, it is such only when so made as to practicably constitute an express compact,* or contract.

3. The defense of acquiescence is essentially a matter of evidence, and is not available in support of such a motion as this, unless it conclusively appears to the court that all the evidence available, upon the material allegations of the complaint, is before the court.

4. In the case at bar the line of Michigan's grant can positively be laid down; no compact or express contract has been made to change it, and Michigan has never submitted to Wisconsin's claim, knowing or having a reason to believe that it infringed on Michigan's rights, and Wisconsin has always known that her claims were conditional on Michigan's right to have the line of her boundary established.

What is "*acquiescence*" in the sense of the word as applied to its use as a defense?

The Standard Dictionary gives its meaning in *law* as:

"Consent inferred from silence, or from omission to dissent *when circumstances require an expression of dissent.*"

Bouvier's Law Dictionary says of this word:

"The acts of acquiescence which constitute an implied election must be decided *rather by the circumstances of each case, than by any general principle.*"

And again:

> "When a party is bound to elect between a paramount right, and a testamentary disposition, his acquiescence in a state of things, which indicates an election, *when he was aware of his rights,* will be *prima facia* evidence of such election."

In *1 Corpus Juris, page 906,* it is said:

> "The word implies assent, or consent, acceptance, or approval, *the term also implies knowledge.*"

In Rap. & Lawrence's Law Dictionary, quoted in *Words & Phrases, Vol. 1, page 110,* it is said:

> "Acquiescence is *where a person, who knows he is entitled to impeach a transaction or enforce a right,* neglects to do so for such a length of time, that, *under the circumstances of the case,* the other party may fairly infer that he has waived his right."

Thus *knowledge* of one's rights in an *essential* element of acquiescence in a transgression thereof.

There are a very large number of cases where the word "acquiescence," as referring to a defense, is defined; all in harmony with the definitions above quoted, and plaintiff claims they fully support its position in this case, and that to entitle the defendant to plead "acquiescence" as a defense, and much more in order to support its motion on such a claim, it must appear, that the act relied on is definite and positive, and is by a person having authority to act, and who acts or fails to act while having knowledge of the rights which it is claimed he has forfeited by such action or inaction; that as to a State, in addition to the above required elements, circumstances relied upon must be direct action, and cannot be implied by inaction. Also, that the condition of active consent must be continuous for a long period of time, uninterrupted by acts of dissent.

In support of this position we cite:

2 Pomeroy's Eq. Jur., Sec. 817.
1 Am. and Eng. Enc. of Law, page 570.
Mathews v. Murchison (U. S.), 17 Fed., 760, 766.
Pence v. Langdon, 99 U. S., 578, 581; 25 L. Ed., 420.
Wagg v. Herbert, 92 Pac., 250, 266; 19 Okl., 525.
Royce v. Carpenter, 80 Vt., 37; 66 Atl., 888, 892.
Words & Phrases, 2nd Series, Vol. 1, page 63.

In *2 Pomeroy's Eq. Jur., page 906,* referred to and quoted in *1 Corpus Juris, page 906, note 18-a,* it is said of "acquiescence" that *in order to cut off a party's title or bar a legal remedy:*

> "The acquiescence must be *with the knowledge of the wrongful acts themselves, AND OF THEIR INJURIOUS CONSEQUENCE. It must be voluntary,* not the result of accident * * * and it must last for an unreasonable length of time." (Italics are ours.)

This authority is fully decisive of the question as applicable to this hearing for it clearly appears that at all times, after the grant to Michigan in 1836 up to 1906, Michigan acted upon false representations as to her rights, and without knowledge of the fact that any rights of Michigan were transgressed by the actions of Wisconsin which it is now claimed Michigan ratified by acquiescence. Not one act of Michigan has been pointed out where Michigan acted upon any feature of the transaction, *with KNOWLEDGE* that such action was not in accordance with its just rights, or with *KNOWLEDGE that that act* of the Federal Government or of the State of Wisconsin, now claimed to have been acquiesced in, *were wrongful acts themselves,* or with *knowledge* of their *injurious consequences.*

While defendant claims by its brief, that Michigan has acted regarding Wisconsin's claimed boundary, knowing of such claim, it is not anywhere successfully shown that Michigan acted in that regard knowing that Wisconsin's

claim transgressed Michigan's rights, but on the contrary, Michigan's actions have been based on the false representations that Wisconsin's claimed line was not materially different from Michigan's line, and would give to each, Michigan and Wisconsin, substantially equal amounts of territory as was intended by the description of the Michigan line; furthermore, none of the cited acts of Michigan were of such a nature, or under such circumstances, as would have amounted to acquiescence. Still further, Michigan knew that the claimed Wisconsin boundary was subject to the ratification of Michigan, and that it was *expressly* not binding at any place where it came in conflict with Michigan's line, and Michigan never, until 1906, had any reason to believe that the Wisconsin claimed line included any territory within the Michigan line. Until Michigan so knew there was no call for her protest, and she could not *acquiesce* in a wrong of which she had no knowledge. As soon as Michigan learned of Wisconsin's trespasses she acted in her own defense and positively made her claims known to Wisconsin.

Furthermore, Michigan's acts now claimed to have been acts of acquiescence, so far as they had to do with the Wisconsin line, having been brought about by misrepresentation, were not *voluntary* acts, and, therefore, for this reason, under the authority cited, *they are not available to bar a legal remedy.*

In *1 Am. & Eng. Enc. of Law, page 570,* it is said:

> "Acquiescence is *where a person who knows that he is entitled to impeach a transaction or enforce a right* neglects to do so for such a length of time *that under the circumstances* of the case the other party *may fairly infer* that he has waived or abandoned *his right.*"

We have used italics to emphasize our position that the act referred to cannot be "acquiescence" unless the acting party *knows* that it is not in accord with his rights.

In the cited case of *Mathews v. Murchison, 17 Fed., 760, 766*, the court held that "acquiescence, that is 'asent'" *is tantamount to an agreement.* It is an implied contract, and *it requires for its validity*, the power to contract.

In the cited case of *Pence v. Langdon, 99 U. S., 578, 581*, it is said:

> "Before the plaintiff was required to affirm or rescind the contract, he must be shown to have had actual knowledge of the *imposition* practiced on him. It is not enough to show that he might have known or suspected it from data within his reach."

In the same case it was also said:

> "It was not enough to charge the plaintiff with knowledge of the malcharacter of the transaction, that the language used was such as might have caused some persons to suspect. He might, in view of previous friendly relations, have no suspicions of bad faith, and might naturally regard expressions as inaccurately used, rather than put upon them a construction which would show bad faith on the part of the defendant, which he had no reason to anticipate."

This is particularly applicable to the case at bar.

The line of Wisconsin's grant was made conditional on Michigan's ratification within two years. It had been represented as being as nearly the same as the Michigan line as could be laid down, and Wisconsin had not received Michigan's ratification, or even asked for it. Under such circumstances Michigan had the right to rest secure in the belief that Wisconsin would not claim any territory within Michigan's boundary without first securing Michigan's ratification, and, Wisconsin not having asked that ratification, Michigan had the right to believe that Wisconsin was not claiming any property within the Michigan boundary.

The court there also said:

> "If the jury believe that the plaintiff had no actual knowledge or belief that defendant had put his own stock upon them, until June, 1875, at the mine, then his repudiation of the transaction, if made then, was sufficient."

From this holding that repudiation is not required until knowledge of the misconduct is brought home to the parties sought to be charged with acquiescence, it is equally true acquiescence cannot be charged until knowledge is brought home to him, because a party can not acquiesce in a wrong of which he has no knowledge.

The court there also further says:

> "*Acquiescence and waiver are always questions of fact. There can be neither without knowledge.* * * * One cannot waive or acquiesce in a wrong while ignorant that it has been committed. Current suspicion and rumor are not enough. There must be knowledge of facts which will enable the party to take effectual action. Nothing short of this will do. But he may not wilfully shut his eyes to what he might readily know and ought to have known."

As the allegations of the complaint clearly show that the plaintiff acted in this matter as soon as it had any knowledge of the defendant's wrongful action and as soon as it had reason even to suspect any such wrongful action, there was no acquiescence, but exactly the contrary.

In the same case the court further said:

> "The burden of proving knowledge of the fraud and the time of its discovery rests upon the defendant."

So, in the case at bar, the burden of proving that the plaintiff acquiesced, one element of which must be that

plaintiff had knowledge of the wrong, rests upon the defendant, the State of Wisconsin, there being nothing in the complaint from which acquiescence can be inferred, but, on the contrary the bill having specifically shown that Michigan had no knowledge of Wisconsin's transgression, and thus countered an anticipated charge of acquiescence.

In the cited case of *Wagg v. Herbert, 92 Pac., 250, 266; 19 Okl., 525,* it is said:

> "When a party, *with full knowledge,* or at least with sufficient notice or means of knowledge, of his rights, *and of all material facts,* freely does what amounts to a recognition of the transaction as existing, or acts in a manner inconsistent with its repudiation, or lies by for considerable time and knowingly permits the other party to deal with the subject-matter under the belief that the transaction has been recognized or freely abstains for a considerable length of time from impeaching it, so that the other party is to be reasonably induced to suppose that it is recognized, there is acquiescence, and the transaction, although originally impeachable, becomes unimpeachable in equity."

The reverse condition of facts being shown by the present bill the law applies in reverse order and Michigan's delay without knowledge was not acquiescence.

In the cited case of *Royce v. Carpenter, 80 Vt., 37, 66,* it is said:

> "'Acquiescence' in the wrongful act of another, such as will operate to preclude equitable relief, must be not only with knowledge of the wrongful acts, but also of their injurious consequences, and the same must last for such an unreasonable length of time as to make it inequitable to enforce the remedies of equity against the wrongdoer."

In the cited authority of *Words & Phrases, 2nd Series, Vol. 1, page 63,* numerous authorities are cited in support of the there given definition of acquiescence *and of the fact that it implies knowledge,* as follows:

> "'Acquiescence' and 'waiver' are always questions of fact; there can be neither without knowledge. *The terms import this foundation for such action.* One cannot waive or acquiesce in a wrong while ignorant that it has been committed. Current suspicion and rumor are not enough; there must be knowledge of the facts which will enable the party to take effectual action. Nothing short of this will do. 'Acquiescence' exists where a person, who knows that he is entitled to impeach a transaction or enforce a right, neglects to do so for such a length of time that, under the circumstances of the case, the other party may fairly infer he has waived or abandoned that right."

We believe the authorities above cited applicable to the alleged "acquiescence" of plaintiff, effectively defeat the defendant's position that, by the complaint, and the documents cited by defendant claimed to be in conflict therewith, such a situation is presented as to show any such acquiescence as would amount to a defense upon a hearing, and that in any event, no such a showing is so *conclusively* made as to warrant the dismissal of the action on the motion; as to preclude the plaintiff from the right and privilege of presenting all the evidence there may be in support of the complaint.

Laches, Prescription, Etc.

The other divisions of defendant's reasons for asking that the bill be dismissed, which we have classified as subdivisions b, c, and d, are simply varied claims of "laches," named as stale claims, and failure to assert claims, until other rights have intervened.

What we have said and the authorities we have cited and quoted from, in support of plaintiff's claim that there was no "acquiescence" on its part, are applicable with practicably equal effect as applied to the defense of Laches, and as to that we say not only that there is now before the court no showing of laches, not to mention a *conclusive* showing such as would be required to support the present motion, but the nonexistence of both laches and acquiescence is affirmatively shown by the complaint.

We feel that we can proceed to a citation of other authorities upon the subject of laches and its kindred defenses, and a discussion of defendant's cited authorities, on the theory that none of the public documents referred to in defendant's brief have the effect, as claimed for them, of contradicting any of the essential allegations of the complaint; especially of *conclusively* contradicting the same, as would be necessary in support of this motion, and leave a discussion of the effect of those documents for a later portion of this brief.

In support of our position that there is no showing of Laches, Acquiescence, or other kindred defenses existing in this case, and further that no such defenses would be applicable as against the plaintiff, a sovereign state, especially in a case of this nature, we will not only review defendant's cited authorities upon those points, but cite other authorities as follows:

Lindsay v. Miller, 6 Peters, 666; Book 8, L. Ed., 538.
Commonwealth v. First Pres. Church, 8 Ohio S. C., 298; 22 Am. Dec., 718.
Pearson v. Ariedge, 23 Am. Dec., 145.
Jourdan v. Landry, 4 Howard, 169.
Gibson v. Chouteau, 13 Wallace, 90.
Oaksmith v. Johnson, 92 U. S., 343.
U. S. v. Texas, 162 U. S., 867.
Oklahoma v. Texas, 41 Sup. Ct. Rep., 420.

Marine Railway and Coal Co. v. U. S., 66 L. Ed., page 35, Nov. 7, 1921.
Polaski County v. State, 42 Ark., 118.
Mayor of Kingston v. Horner (Cowper, page 102).
Rice v. Minn. & N. W. R. Co., 66 U. S., 358, 380.
Stein v. Bienville Water Supply Co., 141 U. S., 67.
Lott v. Brewer, 64 Ala., 287.

Cases cited by defendant:

Louisiana v. Mississippi, 202 U. S., page 1.
Virginia v. Tennessee, 148 U. S., 503.
Indiana v. Kentucky, 136 U. S., 479.
Missouri v. Kentucky, 11 Wallace, 395.
Rhode Island v. Massachusetts, 4 Howard, 591.
Boyd v. Graves, 4 Wheaton, 513.
U. S. v. Stone, 2 Wall., 525.
Maryland v. W. Va., 217 U. S., 41.
Belding v. Hebard, 103 Federal, 532.
Arkansas v. Tennessee, 246 U. S., 158, 174.
Moore & McFerrin v. McGuire, 142 Federal, 786.
Stevenson v. Fain, 116 Federal, 147, 155.
N. Carolina v. Tennessee, 235 U. S., page 1.

In *Lindsey v. Miller* above cited, it is said in the syllabus, which seems to be the correct synopsis of the decision:

> "It is a well settled principle that the statute of limitations does not run against a state."

There the plaintiff had regularly received a land patent from the State of Ohio shortly before the commencement of the action. The defendant claimed under an illegal patent that had been issued by Virginia and under which possession had been held for thirty years, but possession was not allowed to control against the state which had rightfully given the patent, notwithstanding the possession.

In the cited case of *Commonwealth v. First Presbyterian Church, 8 Ohio, 298, S. C.*, it is distinctly and clearly held that the statute of limitations does not run against the sov-

ereign power in the absence of express condition to that effect. In that case we find a thorough analysis of the underlying reasons why statutes of limitation and the kindred defenses of laches, etc., do not obtain against a state or the United States.

It is there said the separation of the Sovereign power from the statute of limitations rests:

1. On the supposition that the Sovereign is too busy or too much occupied to pay particular attention to his rights, as an individual can.

2. That no negligence or laches can be imputed to the government or sovereignty of a country.

In the opinion in this case citation is made to the case of *U. S. v. Hoar, 2 Mason, 314*, in which quotation is made from Judge Story, as follows:

> "The prerogative right of a King in relation to acts of limitation in England, is, in fact, nothing more than a *reservation*, or *exception*, introduced *for the public benefit*, and is *equally applicable to all governments*, to protect its right, unless the construction be clear and indisputable upon the text of the act."

This Cincinnati case, discussing the underlying principles of the statute, and tracing the exemption of the Sovereign from its operation, from its origin in England, says:

> "The principle that the Sovereign power of a state is not bound by the statute of limitations without express words, *obtained in the earliest stages of the common law, and has descended to this day.* This rule is *sometimes* of odious application; but *it is adopted as incidental to sovereignty, and necessary to preserve* against *negligence*, or cupidity, those *rights which the state has acquired or retained.*"

There is a very obvious reason why such a doctrine should equally apply to a sovereign republican government

such as ours, and that is, that with continuing changes of administrative officials items that may have come to the attention of one administration may be overlooked and not be brought to the attention of the next administration, so that the people, the real sovereigns, ought not to be deprived of their legal rights under such circumstances.

To the same effect, and a holding that "Neither time nor the statute of limitations runs against a state, we cite:

> *Commonwealth v. McGowen, 7 Am. Dec., 737.*
> *Nimmo v. Commonwealth, 4 Am. Dec., 488.*
> *Hoey v. Furman, 44 Am. Dec., 124.*
> *Saunders v. Commonwealth, 10 Gratt., 496.*
> *Sevasser v. Washburn, 11 Gratt., 577.*
> *U. S. v. Hoar, 2 Mason, 311.*
> *French v. Commonwealth, 27 Am. Dec., 613."*

In *Pearson v. Arledge,* above cited, it is said:

> "The statute of limitations does not run against the state nor the United States."

In *Jourdan v. Landry, 4 Howard, 169,* where defendant sought to hold title to lands by possession for a long period of years, a large portion of which was while the lands belonged to the United States Government, the court said:

> "The possession of any part of these back lands, anterior to this survey cannot be set up as a defense under the laws of Louisiana, because the lands belonged to the United States, and those persons in possession were trespassers."

In the case of *Gibson v. Chouteau,* in a head note by Mr. Justice Field, it is said:

> "Statutes of limitation of a state do not apply to the state itself unless it is expressly designated or the mischiefs to be remedied are of such a nature that it must necessarily be included, *and they do not apply to the United States."*

In a foot note to the same case it is said:

> "A statute of limitations does not run against the state nor the United States so as to give title to one holding lands belonging to either, citing *Pearson v. Arledge, 2 Bailey, 401; 23 American Decisions, 145; Union Mill Mining Company v. Ferris, 2 Sawyer, 176, S. C.*"

In the case of *Oaksmith v. Johnson* above cited, it is held that where the legal title is in the United States the statute of limitations raises no bar to the action and is not available as against the government.

In defendant's cited case of *Louisiana v. Mississippi, 202 U. S., page 1,* cited on the claim that long possession gives title, the facts are, as appears from a reading of the case, that Louisiana had the prior grant. The boundary as therein described could be construed in accordance with the Louisiana claim. Louisiana had been in control of the disputed area, under her claim, for more than fifty years, with Mississippi's assent. The adverse possession, lapse of time, and assent were considered as having served to place a construction on the *otherwise questionable proper location* of the boundary. There it was purely a question of locating the original line and possession was a strong element in so doing.

In defendant's cited case of *Virginia v. Tennessee, 148 U. S., 503,* the facts as they appear are that, after Tennessee became a state, commissioners were appointed by each Virginia and Tennessee, through which, in 1802, a compact was entered into, agreeing upon and settling the boundary line. This compact was ratified by the legislatures of both states. The holding is that the *compact* which has been assented to, is binding as fixing the original line.

In defendant's cited case of *Indiana v. Kentucky, 136 U. S., 329,* the court recited as facts that when Kentucky became a state, its jurisdiction extended to the north bank of

the Ohio River, and that the channel of the river then ran north of Green Island. Kentucky based her defense on the grant and long continued possession to what she claimed was the line of the grant. There was much evidence on the subject of the location of that line originally, and their long continued possession was found to be the best evidence as to where the line originally was. After deciding, upon the evidence, that the boundary of Kentucky's original grant was the same as her claim and was in accord with her long continued possession, the court said:

> *"Her dominion and jurisdiction continue as they existed at the time she was admitted into the Union, unaffected by the actions of the forces of nature upon the course of the river."*

All of defendant's quotations from the decision in that case must be considered in connection with the facts there before the court and it was simply a question of establishing the original line, in which possession played a part in support of, but not in conflict with the claimed line of the grant. The evidence was conclusive that Kentucky had claimed the right and had exercised jurisdiction, in accordance with her claims, from a time previous to Indiana's becoming a state. The court, in its decision, used this language,

> "Such acquiescence in the assertions of authority by the State of Kentucky; such omission to take any steps to assert her present claims by the State of Indiana, can only be regarded as a recognition of the right of Kentucky, *too plain to be overcome, EXCEPT BY THE CLEAREST AND MOST UNQUESTIONED PROOF."*

There was no proof of any other line, and the fact of Kentucky's long possession was cited in support of defendant's claim and as opposed to the plaintiff's claim; the plaintiff having had the burden of proof. There was no application of the question of time on the theory of its defeating the title or changing the original line but it was used as evidence of the location of the original line.

The last part of the quotaton above, "except by the clearest and most unquestioned proof," is instructive and shows clearly that even against a long continued possession clear evidence of the original line would prevail. Applying that essential construction to the case at bar, the clear and indisputable evidence of the line of the Michigan grant must prevail over any other line, claimed to have been established by possession.

In the defendant's cited case of *Missouri v. Kentucky (11 Wall., 395)*, the language quoted in defendant's brief at page 79 was used in the discussion of claims of the respective parties because of claimed possession, and it is a fact that in some cases where it is impossible to definitely locate the original line by other positive evidence, the question of occupancy has been used to evidence its probable location. There the court found the boundary of the first grant to Virginia to have been the Mississippi River, and that when Kentucky was carved out of the Virginia territory, its western boundary was the Mississippi River. Likewise Missouri's eastern boundary was the same river. Then it recites an agreement of authorities that when a river is described as a boundary, without other specifications, the middle of the main channel of the river is the boundary.

Much evidence, oral and documentary, was considered, and it was found that the middle of the main channel of the river at that point was West of the Wolf Island in question, and that Wolf Island was therefore on the Kentucky side of the main channel and was a part of Kentucky. In discussing the evidence by which it was determined where the main channel was at the earlier date, the court stated that Kentucky had exercised possession and that Missouri's claim to possession was not established. However, the real question in issue there was to establish the original line and there was no semblance of a holding that the line of the original grant was changed by possession, acquiescence or laches, but on the contrary the possession was in accord with the other evidence by which the line was determined.

At page 81 of defendant's brief, the case of *Virginia v. Tennessee* is again cited and quoted from. By the quotation reference is expressly made to a boundary,

> "*which has been run out, located and marked* upon the earth, and afterwards recognized and acquiesced in by the parties for a long course of years,"

and it is there further said that the line so established *takes effect as a definition of the true and ancient boundary.*

The case is not in point in the case at bar because Michigan's boundary has never been run out and it has never been claimed that it had been run out, and Wisconsin's boundary, insofar as it has been run out, was conditional at the time it was run and was not in accord with Michigan's prior grant, and the condition in that boundary has never been removed and there has never been a time when Michigan was called upon to recognize it as a definite boundary, free from condition, and Michigan never has so recognized it.

Defendant's cited case of *Boyd v. Graves, 4 Wheat., 513,* cited in the case of *Virginia v. Tennessee* last referred to, held simply the fact that where two proprietors of land made a parol agreement to employ a surveyor to run their dividing line, and that it should thereby be ascertained and settled, and with both parties present the line was surveyed, the adjustment was held to be conclusive. Referring to the last cited quotation of defendant from the case of *Virginia v. Tennessee,* we call the court's attention to the fact that in that case the final decision rested upon the fact that commissioners had been appointed by each state to settle the line and the commissioners agreed thereon and their agreement was ratified by the legislatures of both states and the holding of the court was that the compact which had been assented to was binding as fixing the original line, and there was no holding, that upon the facts in the case, that any number of years of acquiescence in a line that had not actually been marked out by the parties and agreed

upon would overcome the establishing of the original line where the same could be established by definite evidence.

In support of its decision in the cited last mentioned case of *Indiana v. Kentucky*, the court cited there also the cases of *Stone v. the U. S., 2 Wallace, 525.*

In the case of *Stone v. U. S.*, it was held that:

> "A boundary between the lands of an Indian tribe and those of the United States, *surveyed by the parties*, and acquiesced in for more than thirty years, cannot be made the subject of dispute, by references to courses and distances called for in patents under which the parties claimed."

In that case a survey provided for by Congress was participated in by both parties and agreed to, and both parties recognized it for thirty-four years as the line of the boundary. The effect of that case was not to establish title by prescription, but to use the fact of possession as evidence that the line agreed upon was so located. It is in no way applicable to the present case where the parties have never agreed upon a line or upon the location of a line.

Defendant's cited case of *Rhode Island v. Massachusetts, 4 Howard, 591*, is a case frequently cited, and the court is undoubtedly very familiar with the principles there settled. We do not, however, agree with counsel for defendant that the case supports their position and therefore take the liberty of analyzing to some extent that very extended opinion in that case.

In that case the decision was made to rest upon two propositions (page 635):

1. The construction of the Massachusetts Charter.

2. The question as to whether or not there was a mistake made by the Commission in locating the Woodward and Saffrey station, or monument, a joint

commission of the two states having agreed upon the location of the monument, and of the boundary line.

The question as to whether long possession, alone, could defeat a prior grant did not enter into the decision, as the possession had been in accordance with a reasonable construction of the grant and also following an agreement as to the line.

Long delay, while out of possession, *in asserting a claim for redress on account of a claim that a settlement* of the line, *by a joint compact, was brought about through mistake,* was mentioned in the decision as supporting the probability that there had been no mistake in the making of such compact, and in connection therewith it was also said the burden of proving the mistake was on the plaintiff, and there was no proof.

On the whole, as bearing upon the settlement of state boundary disputes in general, and in some respects on the instant case, the quoted case is an interesting one.

In 1629 Massachusetts received her Charter from the Crown, and therein her southern boundary was described as a line:

> *"Three miles south of the Charles River, and the most southerly part thereof."*

In 1638-1639 and 1642 Massachusetts surveyed that boundary and designated it by the Woodward and Saffrey station which was set *three miles south of the southermost part of one of the tributaries of the Charles River.*

In 1663 the grant to Rhode Island designated her northern boundary as

> *"the southerly line of Massachusetts."*

In 1664 a line was run by Commissioners from each colony. Their return was accepted by the General Court of Massachusetts, and ordered to be recorded.

The court says, "It may fairly be presumed that the report was also accepted by Plymouth" (then occupying R. I.'s position).

Much contention arose over the line as settlement of the country proceeded, and

> "to adjust these disputes, in 1702, Commissioners were appointed by the two Provinces *to ascertain the boundary line.*" (Italics in these quotations are ours.)

This Commission took observations at different points called for in the Woodward and Saffrey line, as first marked by Massachusetts, and *it was found that Massachusetts had made grants and established towns south of the line.*

On account of conflicting grants serious difficulties occurred between the border inhabitants of the two states.

It is recited that:

> "After much correspondence and legislative action on the subject by the respective parties, it was finally agreed to appoint commissioners."

Again in October, 1710, the Rhode Island Legislature appointed a Commissioner to treat with a Commissioner from Massachusetts.

These Commissioners met and agreed to the Woodward and Saffrey line, and the agreement was signed by the Commissioners from both states.

In 1711 this agreement was sanctioned by Rhode Island when it authorized the running of the line in pursuance thereof, and it was accepted and approved by Massachusetts.

In 1716 and 1717 Commissioners were appointed by Rhode Island to act jointly with Commissioners from Massachusetts to run the line, with *full power,*

> "for the final settling and stating the aforesaid line between said colonies * * * in the best manner they can, as nearly agreeable to our royal Charter as in honor they can compromise the same."

This joint Commission, October 22nd, 1718, signed and sealed an agreement,

> "that the stake set up by Nathaniel Woodward and Solomon Saffrey, in 1642, upon Wrentham Plain, be the station or commencement to begin the line," etc.

October 29th, 1718, this agreement was accepted by the General Assembly of Rhode Island, and ordered to be recorded and it was also accepted by Massachusetts.

A joint Commission was appointed to run the line in accordance with the last mentioned agreement.

This Commission reported its inability to find the Woodward and Saffrey stake, but located the place thereof, as described in the Commission, and located the line.

The contention of Rhode Island was that the line should be run at a point three miles south of the southermost point of the main channel of the Charles River, instead of three miles south of the southermost point of a tributary thereof.

The Court said (page 633):

> "The misconstruction of the Charter, in going more than three miles south of Charles River, is earnestly insisted on by Complainant's Counsel. *IF THE WORDS of* the Charter *WERE CLEAR AND UNEQUIVOCAL in this respect, there would be great force in this argument. It would be decisive of this controversy* unless controlled by other facts and circumstances in the case."

After discussing the fact that *the Charter might be construed to mean a line three miles south of the southermost*

point of a tributary, and the fact that *the tributary might be called a part of the river,* etc., the court said (page 636):

"The Complainant's Counsel rely mainly upon two grounds:

1. The misconstruction of the Charter.
2. The mistake as to the true location of the Woodward and Saffrey station.

If the first be ruled against the Complainant the second must fall as a consequence. And, as regards the first ground little need be added to what has already been said. *The Charter is of doubtful construction, and may, without doing violence to its language, be construed in favor of or against the complainant. IN THIS VIEW the construction of the Charter by Massachusetts, assented* to by the old colony of Plymouth many years before Connecticut or Rhode Island had a political organizataion, *is an important fact in the case.* Plymouth was interested in restricting the lines to the calls of the Charter, for the line constituted the common boundary between the two colonies. *And as controversies had arisen respecting the boundary, and commissioners been appointed to settle it, the presumption is that the rights of both colonies were understood and respected in the establishment of the line. * * * IN THE ABSENCE OF PROOF THE PRESUMPTION IS NOT TO BE DRAWN THAT THEY SUPPOSED the line established was only three miles south of the river. Connecticut,* after the lapse of many years, *assented* to the line run from the Woodward and Saffrey station, as its boundary, *AND SO DID THE COMPLAINANT, in most solemn agreements,* as stated. *These proceedings conduce strongly* to estab sh a fixed construction of the charters, *favorable o respondent, UNLESS it be clearly made to appear they were founded on mistakes or fraud.*

Fraud is not charged, and we have only to inquire into the alleged mistake.

From the nature of this supposed mistake it is scarcely susceptible of proof."

The court, after further discussing the investigations made by the Commissioners, and the improbability of their having been mistaken, said:

> "The dispute is between two sovereign and independent states. It originated in the infancy of their history, when the question in contest was of little importance, and *fortunately, steps were early taken to settle it, in a mode honorable and just,* and one most likely to lead to satisfactory result. *There is no objection to the joint commission in this case,* as to their authority, capacity, or fairness of their proceedings. An innocent mistake is all that is alleged against their decision.
>
> And, as has been shown, *this mistake is not clearly established, either in the construction of the Charter, or as to the location of the Woodward and Saffrey station.* But, if the mistake were admitted as fully and broadly as stated in the bill, could the court give the relief asked by the Complainant?"

In 1754, William Murray, then Attorney General, afterwards Lord Mansfield, was consulted by Connecticut, whether the agreement with Massachusetts respecting their common boundary, in 1713, would be set aside by a Commission appointed by the Crown, to which Mr. Murray replied:

> "I am of opinion, that in settling the above mentioned boundary, the Crown will not disturb the settlement by the two provinces so long ago as 1713. I apprehend his Majesty will confirm their agreement, which of itself is not binding on the Crown, *but neither province should be suffered to litigate such an amicable compromise of doubtful boundaries.*"

The court then, after dwelling upon the fact that *the agreement* had been allowed to stand unchallenged for forty-one years when that opinion was given, said:

> "*The possession of the respondent was taken, not only under a claim of right, but that right,* in the most

solemn form *has been admitted by the complainant* and by the other colonies interested in opposing it. *Forty years elapsed before a mistake* was alleged, *and since such allegation* was made nearly *a century has transpired.* If, in the agreements there is a departure from the strict construction of the charter, *the commissioners of Rhode Island acted within their powers,* for they were authorized 'to agree and settle the line between the said colonies in the best manner they can, as near agreeable to the royal charter as in honor they could compromise the same.' * * *

It is not clear that the calls of the charter were deviated from by establishing the station of Woodward and Saffrey. But if in this report there was a deviation, Rhode Island was not the less bound, for its Commissioners were authorized to compromise the dispute. Surely this, connected with the lapse of time *must remove all doubt as to the right of the respondent under the agreements of 1711 and 1718.* No human transactions are unaffected by time. Its influence is seen on all things subject to change. *And this is peculiarly the case in regard to matters which rest in memory,* and which consequently fade with the lapse of time, and fall with the lives of individuals. For the security of rights, whether of states or individuals, *long possession under a CLAIM of title* is protected. And there is no controversy in which this great principle may be involved with greater justice and propriety than in a case of disputed boundary."

Concretely speaking the case resolves itself into a statement of the law, that, the proper location of the described boundary having been a matter of doubt, to the extent that the charter might, with reason, have been interpreted in accordance with the claims of either party, and the parties having by mutual agreement come to a conclusion on the line, and the line having been located accordingly, and Massachusetts having, for one hundred forty years after such agreement, claimed title under her charter and said

agreement so construing it, with the full knowledge and *express* assent of Rhode Island, the latter could not have relief. And in so holding, it was recited that the claimed mistake in the agreement had not been supported by proof, and that the court would presume that the Commissioners who made the agreement understood the facts and circumstances.

It is significant, in this connection, that, although holding that, in a case of doubtful interpretation, like the location of the Massachusetts-Rhode Island boundary, the agreement, together with long possession pursuant thereto would establish the line, the court also, in speaking of the claim of Rhode Island that the Charter of Massachusetts had been misconstrued, and that, properly construed, the line should have been run as Rhode Island was contending (page 633), said:

> *"If the words of the charter were clear and unequivocal in this respect, there would be great force in this argument. It would be DECISIVE of this controversy, unless controlled by other facts and circumstances in the case."*

Applied, the court found the line not necessarily differing from the Charter, and further, even if it had been, there were the further facts that the two states had agreed upon a line as the boundary under the charter, and possession was held by Massachusetts for one hundred and forty years under claim of title through its charter as construed by that agreement.

Applying the last quoted statement by the court, to the instant case, it must be concluded that if the description of the boundary, as set forth in the Michigan Act of June 15th, 1836, is unambiguous, and should be interpreted in accordance with Michigan's claim, as to any portion of the disputed boundary, then, as to that portion, *such construction "is decisive of this controversy,* unless controlled by other facts in the case."

As to other facts in the case, there has been no agreement of parties; Wisconsin has not been in possession under claim of title. She cannot so claim, because her boundaries were expressly conditional, she accepted them as such, and the condition failed, so she never had title, or the right to claim it. Furthermore, *by the records* it is established that there was a mistake, that there were misrepresentations, and that only within very recent years have the true facts come to the knowledge of Michigan, bringing therewith notice that Wisconsin is possessed of lands that are within the clearly definable boundaries of Michigan. This testimony is not perishable.

Briefly comparing further the Massachusetts case with the case at bar, the court there stated that the river boundary contained an ambiguity. The language of the description might be interpreted to mean the northern most point of the main channel of Charles River, or the most northerly point of a branch thereof, considering the branch a part of the river. In the case at bar the language is explicit, the country being new and the details not definitely known to Congress, Congress made the description explicit by specifying the *main channel* of the Montreal River. This left nothing ambiguous. It simply remained to establish which was the main channel. According to the complaint that has never been done. When Captain Cram surveyed the east branch he was not authorized to locate any part of the boundary. That was on his second trip when he was to make a map for the information of Congress, and he did not survey or report the main channel, as alleged in the complaint.

Further commenting upon the language used in this decision as to the lapse of time, the court was speaking, not of the original grant, but of the fact that an agreement had been made practically one hundred forty years before the suit was commenced, *by which agreement between the states the line was established.* The court was considering the claim of Rhode Island, that there had been a mistake made by the commissioners, but the court said there was

no satisfactory proof of such a mistake, and in that connection said that the

> "lapse of time must remove all doubt as to the right of the respondent under the agreements of 1711 and 1718."

And it was in connection with that state of facts, and not as bearing upon the right to change an unambiguous description in a grant that the court said:

> "No human transactions are unaffected by time. Its influence is seen on all things subject to change. And *this is peculiarly the case in regard to matters which rest in memory,* and which consequently fade with the lapse of time, and fall with the lives of individuals. For the security of rights, whether of states or individuals, long possession under a claim of title is protected. And there is no controversy in which this great principle may be involved with greater justice and propriety than in a case of disputed boundary." (Italics are ours.)

That language was peculiarly applicable to that case where there was an attempt to establish a mistake of fact which was claimed had occurred one hundred forty years before, and of which there was no documentary proof and no other satisfactory proof, and where the description of the line was ambiguous.

In the case at bar there is no ambiguity, and the errors and misrepresentations complained of are matters of record which have been recently discovered to be errors and misrepresentations. So it is clear that that case in no way supports defendant's theory of acquiescence by Michigan, but, on the contrary, is a substantial authority in support of the plaintiff's theory that the unambiguous line in a direct and positive grant cannot be modified by lapse of time or possession, and that even against lapse of time, equity will relieve as against mistake or fraud. In the instant case the allegations of the complaint show the line

claimed by Wisconsin to have been marked and used because of both mistake and fraud; the misrepresentations, even though unintentional, effect a legal fraud.

Defendant's cited case of *Belding v. Hebard, 103 Fed., 532,* and *North Carolina v. Tennessee, 285 U. S., page 1,* are controversies over the same state boundary.

The first case is cited on page 84 of defendant's brief on the question of acquiescence, in consideration of

> "the *effect of acquiescence upon a line run and marked by the commission of each state,* which had long been recognized by both states as the true line, though, in fact, as afterwards discovered, it departed from the line called for in the grant which ought to have been pursued."

There the line of the grant was to follow the uppermost ridge of the mountain chain, which while naming certain peaks, left the location to be determined by engineering. Commissions from the two states ran and marked this line. It ran through an uninhabited wilderness. The notes of the survey and the report of the commissioners were not in evidence in this case. There was much conflict over the question *as to the location* by the commissioners of that portion of the line in question, including evidence of surveys made in Tennessee. The evidence being uncertain as to the location and marking by the Commission, the court considered evidence as to the probable location of the actual line of the grant, as relating to the agreed line, and established the line as it considered the evidence showed would most nearly harmonize the Commissioners' agreed line with the line described in the grant.

Speaking of the evidence on which a claim of *acquiescence* was based, the court said:

> "Evidence as to the reputation of the creek line of trees as marking the state line, and as to other acts indicating a recognition of that line as the actual line,

must be unavailing, *unless it is pursuasive enough to satisfy the legal mind that the State Commissioners ran, marked and adopted the Slick Rock Creek line as the true line,* although it is a radical departure from the description in the cession act.....; or such evidence must show such a long and continuous recognition by both states, of the creek line as to operate as an *estoppel to deny that it was the line run and marked and adopted in 1821.*"

Thus, *the original line of the grant must control,* unless *there is evidence to establish that the parties have agreed on another line.*

The court considered the evidence of Land Entries in the disputed strip, with the authorities of each state, and acts of surveyors on surveys authorized by the legislature of Tennessee.

The line of the original grant was sustained, the case seems to furnish no support for defendant's claim in the case at bar.

In the defendant's cited case of *North Carolina v. Tennessee, 235 U. S., page 1,* where the same line was in question, the surveyor's minutes and report of survey of the line as agreed to by the Commission, had been discovered and were in evidence, clearly showing that where there was a distinct break in the high ridge of the mountains the Slick Rock Creek line had been run and agreed to. No question of acquiescence was involved in this decision, except that the compact, or agreement to settle by the survey was an *express* acquiescence. The Court established the line in accordance with the compact which was made for the purpose of agreeing on the *original* line of the *grant.* No questions of other actions on the part of either state entered into or affected the decision.

We claim both these decisions as fish for plaintiff's net.

Another of defendant's cited cases to this same point is *Moore & McFerrin v. McGuire, 103 Fed., 787,* which involved the boundary line between Mississippi and Arkansas. The evidence established the fact that when Mississippi was admitted in 1817, and when Arkansas was admitted in 1836 an island in dispute was on the east side of the main channel of the river and was therefore a part of Mississippi and was not within the boundaries of the grant to Arkansas.

The island was included in the survey of Mississippi and part of it was included in the survey of Arkansas.

The complainant claimed title through a certificate of purchase from the United States, granted at an Arkansas Land Office, as of land in Arkansas. The lands in question had been sold for taxes under proceedings in Arkansas, through a decree in a court of equity of that state, to Complainant's grantor. Complainant also claimed possession under that purchase since 1898.

Part of the island had also been sold for taxes under proceedings in Mississippi, through which defendant claimed. It was held that Mississippi retained jurisdiction according to her grant of Statehood which extended to the main channel of the river and included the Island (page 808).

There seems to be no feature of this case to support defendant's contention. On the contrary it is an authority for Michigan's claim of sovereignty to the line of her grant.

It is there also said (page 801) that acquiescence involves knowledge of a right. It was also said (page 798):

> "It has never been authoritatively determined by the courts of the United States whether a state can lose its territory by prescription and acquiescence."

The defendant's cited case of *Stevenson v. Fain, 116 Fed., 147,* involved the boundary line between North Carolina and Tennessee, and it was there held that a *compact* between

the states fixing the boundary was binding. Of course that is an extreme example of *acquiescence,* but it is not applicable to the case at bar for we have no compact.

Defendant also cites to the same point, *Arkansas v. Tennessee, 246 U. S., 158, 174.*

In this case there ~~has~~ had been decisions in the courts of each state, in criminal and other cases, where the boundary was treated as being "a line along the river bed equidistant from the permanent and defined banks of the channel." In that case the original channel of the river had been completely changed by avulsion. Tennessee sought to have settlement by Commission but Arkansas refused to join. Action was brought to establish the boundary. It was held that the actions by the courts referred to did not constitute acquiescence, and that the boundary was along the center of the main channel as it existed prior to the avulsion.

There is nothing in this decision to sustain defendant's claim of acquiescence, but its effect is quite the reverse.

Maryland v. W. Virginia, 217 U. S., page 41, is another case that involved the establishing of a geographical point to determine the location of the line, and where a line intended to be the line of the prior grant, had been surveyed and marked, as the State line, and generally and extensively recognized as such for a century or more, and the point referred to as having to be determined geographically had been determined by Commissioners and *expressly* recognized as a point in the boundary by the Legislature of each state, the final question was reduced to either the adoption of an old line, run as the boundary, though inaccurately and not true to the meridian, and which had been recognized for many years by the many settlers, and whose farms were bounded by that line, or to adopt a new line, running true to the meridian, with a variance of three-quarters of a mile in 38 miles. In view of all the circumstances, the court adopted the old line as having been surveyed, marked and recognized as the line of the grant.

Maryland claimed through a grant from King Charles to Lord Baltimore in 1632, and West Virginia through a grant from King James to Thomas (Lord) Culpeper in 1688, to whose right, through Lord Fairfax, West Virginia succeeded. The Western boundary in question was to start at the uppermost fountain or spring of the Potomac River and run north to the Pennsylvania line. The Potomac forked into two branches and the north branch again forked into two small branches which took such courses as to raise a question as to which was formed by the uppermost fountain. The one would give a meridian line about 1¼ miles farther west than the other.

Disputes arose between Lord Fairfax and the Governor and Council of Virginia over the boundaries of the grant.

Upon petition of Lord Fairfax the King in council made an order in 1733 for a commission to issue, run out and ascertain the boundaries (page 271). In 1736 the Governor of Virginia appointed Commissioners and Lord Fairfax appointed commissioners in his own behalf.

The commissioners were instructed to make a clearer description and to make exact maps and to show thereon the "head-spring, so-called or known." These commissioners made a report which was laid before the King in council, when further commissioners were appointed to run and mark the line. These commissioners planted the stone known as Fairfax stone at the head of the branch whose fountain was farthest east, marking that as the head of the Potomac River. This was in 1746. In 1748 the location of this stone was approved by the King in council and the Virginia Council, and was thereafter generally recognized as an important Government monument by the State of Virginia. In 1851 Maryland adopted a constitution and therein named the Fairfax stone as a monument in one of its provisions. In 1872, pursuant to the said provision in its constitution, Maryland made the Fairfax stone a monument in the then created Garret County which the constitution had provided for.

While this point in the boundary had been thus established, and to a great extent recognized, there were frequent other efforts to have the boundary definitely and permanently located.

In 1781 Maryland provided for laying out a portion of the state into 50-acre lots, and, in so doing a line was run, about 1787, from the said Fairfax stone northerly to the Pennsylvania line, then and ever since known as the Deakin line. That line was *generally* recognized as the boundary, and many acts of both states tended to so recognize it, and for a portion of the way the country became thickly settled, the settlers on the west holding under grants from Virginia and those on the east from Maryland.

In 1852 the Legislature of Maryland again took action with a view to joining Virginia in a survey of the line and in its resolution recited:

> "It is of great importance that the western territorial limit of the state of Maryland be clearly defined and her boundary be permanently established; and whereas the true location of the western line of Maryland between the states of Maryland and Virginia beginning at or near the Fairfax stone, on the north branch of the Potomac River at or near its source, and running in a due north line to the state of Pennsylvania, is now lost and unknown, and all the marks have been destroyed by time or otherwise, and whereas the states of Virginia and Maryland have both granted patents to the same tracts of land at or near the supposed line, * * * which cannot be justly settled without establishing said boundary line."

Then provision is made for inviting Virginia to join in

> "tracing, establishing and marking the said line."

Here we have distinct recognition by Maryland's legislative body, of the fact that the line that had been run from

the Fairfax stone north was its western boundary, but that it had been lost, and required establishing.

That was a distinct and express acquiescence by the proper legislative body of the state in the line which Virginia and Lord Fairfax, with the approval of the King in council, had theretofore agreed upon.

Virginia accepted the proposition, and, in 1854 commissioners were appointed to run the line, beginning at the Fairfax stone. These Commissioners secured, through the War Department, the services of Lt. Michler, of the United States Topographical Engineers to aid in the work. He started at the Fairfax stone and ran "northwardly." His line intersected the Pennsylvania line at a point about three-quarters of a mile west of the northern extremity of the Deakin line, which had been run in 1788. In 1859 the Maryland Legislature adopted the Michler line, but Virginia did not adopt it. In 1887 West Virginia passed an act adopting the Michler line, but on condition that Maryland recognize the grants by Virginia within the territory between the Deakin and Michler lines.

The court says (page 276):

> "The divergence between the Michler line and the line shown on Deakin's map probably arises from the fact that Lieutenant Michler ran a true astronomical line, and that his line is a true north and south line, whereas the Deakin line was probably run with a surveyor's compass, and with less accuracy than the Michler line."

In Lieut. Michler's report he mentions the old line having been run with a compass, and under difficulties. He says (page 271) that if the meridian line is adopted it will cause great litigation because the patents of most of the lands call for the boundary as their limits. He then recites the variance in the two lines and shows that at one point they are 85 feet apart, at another forty, and at still another about twenty feet. In fact the report of Lieut. Michler

showed that there had been a general recognition of the Deakin line by the settlers, and that no individual boundaries would be interfered with if the Deakin line could be re-marked.

It therefore became only a question of re-marking a line that had already been laid down as the boundary, and there was no question of possession or acquiescence disturbing the line of a grant. The *line* of the *grant* had been established by the Deakin survey, finally *expressly* recognized by all parties in interest, and the court would not straighten out the irregularities or crooks in the line so long laid down as the boundary, and at so great an inconvenience.

In the case at bar no such condition appears to exist. The Michigan line has not been laid down and no conflict of titles appear to exist. The adjustment of surveys to accommodate them to the correct line would not be a difficult matter.

Defendant also cites, and claims thereby support for her theory of the defense of laches and acquiescence.

Vattel's Law of Nations (brief, page 840), Book 2, Chap. 11, Sec. 149.

Wheaton's International Law, Part 2, Chap. 4, Sec. 164.

Moore's Digest of International Law, quoting from *Virginia v. Tenn., 148 U. S., 503.*

As these are works on International Law we claim they have little or no application to the question of rights between states. As to this see *Moore & McFerrin v. McGuire, 103 Fed., 787,* where it is held (page 797) that rules of International Law governing independent nations cannot be applied to the full extent, in relation to states, on the subject of prescription and acquiescence.

There is much force in such holding for, most independent nations, especially those of the old world, claim their terri-

torial rights through discovery or conquest, while the states of our nation hold theirs by grant from a common Sovereign, regulated by constitutional enactments.

As to the defendant's quotation (brief, page 85), from *Moore's Digest* wherein it is quoted from the above cited case of *Virginia v. Tennessee, 148 U. S., 523*, this, as said above, was a case where the parties agreed upon the location of the line by formal compact, and the line so agreed upon was recognized for many years by both parties. The compact, though not approved by Congress, was held to be binding on the states under those circumstances. A careful review of all of defendant's citations fails to disclose any authority to sustain the position that the complaint or the complaint and cited public documents taken together, disclose conclusively, or even prima facia, either laches, acquiescence or other kindred situations to justify defendant's motion.

Other cases cited above by plaintiff are in accord with plaintiff's claim that there is no showing of any of these defenses, and that no such defense would be available in the present case upon the record as it appears.

In *U. S. v. Texas, 162 U. S., page 867*, the facts are recited in great detail and the decision treats of the Spanish treaty of 1819, of correspondence preceding the same and in regard thereto, of a large number of maps that likely influenced the decision of Congress, as to the boundaries, in the making of that treaty, and a very large amount of evidence as to the treatment of that line thereafter. There were various commissions for and attempts at an agreement. The differences first were between the U. S. and the Republic of Texas, and finally between the United States and the State of Texas.

The question in dispute was as to whether the boundary along Red River followed the center of the channel, or its south bank, and then as to which of two forks of that river should be followed. There was much evidence that Texas

had possessed the country between the two forks, neither of which were given any name other than the general name of Red River applied to that part of the boundary. After commissioners regarding the boundary had disagreed, and a commissioner from Texas had reported the northern fork as the boundary and the commissioner of the United States had reported the southern fork as the boundary, Texas treated the report of its commissioner as settling the matter and proceeded to and did organize Greer County, covering the territory in dispute between the two forks, that being a very large section of country. Texas claimed the United States had acquiesced by naming Greer County as one of the counties in a Judicial Circuit for Texas, created by Congress. Texas further claimed that the United States had acquiesced in that boundary by settling and paying damages occasioned by a conflict when the United States troops disarmed Texan troops within that jurisdiction. *The court finally found that the south bank of Red River and the south fork thereof constituted the boundary as fixed by the treaty of 1819 and that the same had remained binding throughout all the changes of Government, and it explained various actions of the Government as not having been intended to affect the boundary line, but as being incidents which might easily be overlooked in governmental affairs.* Another incident was that the Government established Post Offices and Post roads in the disputed territory as being in Greer County, Texas, but that was also explained as being such an incident as could not be construed to support an intent that the Government was thereby surrendering territory to which it had made claim.

A very large number of maps were considered and discussed for the purpose of getting at what was the intent of Congress as to the river which was to be the boundary, it being conceded that the maps were imperfect.

The testimony which seems to have been given the most weight was testimony as to the length, breadth and depth of the river and its drainage area, as well as the general

course of the river, and it was decided that the south branch most nearly complied with all those involved elements.

The court finally said, page 902, after discussing the claims of various parties:

> "The question before us, we repeat, is one of law and must be determined according to law. What may be finally and justly demanded by the state on account of moneys expended for the benefit of the inhabitants of the disputed territory is a matter for the consideration of the legislative branch of the National Government.
>
> In the argument it was suggested that this court ought not to forget how much was added to the power and wealth of this nation when Texas, with its imperial domain, came into the Union, and her people became the part of the political community for whom the constitution of the United States was ordained and established. This fact cannot, of course, be forgotten by any American who takes pride in the greatness of the Republic. But the consideration which it suggests cannot affect the decision of legal questions, but must be addressed to another branch of the government. The opinion is not to be indulged that that department of government will fail, to recognize any duty imposed upon it by the circumstances arising out of this vexed controversy."

For the reason stated the United States is entitled to the relief asked.

Then followed the decree establishing the line according to the treaty of 1819 but establishing that line above the forks in accordance with a large amount of varied kind of evidence as to what the *intent* of Congress was as between the two forks and, *notwithstanding the fact that Texas had organized a county and operated the government thereof from 1860 to the hearing of this case in 1895*

that section of the country was declared to be, under the terms of the treaty, not a part of the state of Texas. It had likewise claimed the country, as had the Republic of Texas, long before 1850.

It is very plainly said, in attempting to construe the treaty so as to arrive at its proper boundary:

> "The negotiators had in mind rivers and degrees of latitude and longitude, and that fact appears on the face of the treaty. It cannot be known that they were controlled, in any degree by information as to roads across the country, used by traders and explorers."

This was said in answer to a claim by Texas that the Santa Fe trail which crossed the north fork of the Red River would indicate that that river was the one referred to, but it was explained that no such trail was shown on any of the maps before Congress or the prominent maps issued prior to that time.

It is also said, in the last cited case (page 68), *page 895, L. C. O.:*

> "The respect due to a co-ordinate department forbids this court from taking any view of its (Congress') action that would imply a willingness to accomplish by indirection, or by the use of vague forms of expression, what, perhaps, could not have been accomplished in an open manner, or by employing such clear, distinct language as the occasion and the interests involved alike demanded."

This language was used in explaining why Congress, in having included the disputed territory, under the name of Greer County, Texas, in a Texas Judicial district, and because of the other acts upon which the defense of acquiescence was based, should not be held to have acquiesced in the claim of Texas that Greer County was within the boundaries of Texas.

The principle is particularly applicable to meet any possible assertion that can be made as to the action, or inaction, of the United States, or of Michigan, in the instant case. This authority effectively refutes defendant's claims to the effect that Government surveys, and actions of the State of Michigan in organizing counties and districts, constitute acquiescence.

The Court, in the cited case *(note, page 879, L. C. O.)*, treated the including of Greer County in a Texas Judicial district as an *"inadvertance, not singular in our legislative history."* Certainly, under the situation created by the treatment accorded the boundary in the instant case, and especially after Congress had expressly refused to grant to Wisconsin her claimed boundaries except upon the ratification thereof by Michigan, any action of the general government, such as the carrying on of a survey, could not be held to effect the purpose which, by direct action, had been refused. The court, also, in considering the evidence as to which fork of the river would meet the intent of Congress, and in deciding on the south fork, said that fork was determined upon, as thereby, to use the words of the court, *"the terms of the treaty are fully met."*

In the instant case, by changing the word "treaty" to "grant," the language is alike applicable to the boundary now claimed by Michigan, while it is not applicable to the line claimed by Wisconsin. The further language that the terms of the treaty would not be met by following the varied courses of the north fork, is alike applicable to the boundary claimed by Wisconsin. The decision in that case was rendered in October, 1895, and defined the boundary as along the south bank of Red River and of the south branch thereof.

Notwithstanding this decision Texas continued to claim title to the center of the river, in which valuable oil wells were developed.

Oklahoma, having become a state, brought action, *State of Oklahoma v. State of Texas, 41 Sup. Ct. Rep., 420, U. S.*, in which decision was rendered April 11, 1921.

In that case Oklahoma set up the boundary as described in the treaty between the United States and Spain, of 1819, and among other transactions regarding it, alleged the decision of the court in the above cited case of *United States v. Texas,* as rendering the matter *res judicata.* Texas claimed that in the last mentioned case the issue applied only to the territory between the two forks of the Red River, and not as to the location of the boundary along the main Red River.

To decide the question as to what issues were involved the record and the evidence in the former case were reviewed in the latter case, and in the decision of the latter case it was recited that the settlement of the entire boundary was within the issues in the former case and that by the decision the boundary *as described in the treaty of 1819 was fixed.* Also that Oklahoma then stood in privity with the United States and that the decision was therefore binding as between Texas and Oklahoma.

In the case of *Marine Railway & Coal Company v. U. S., 66, L. Ed., page 35,* decided November 7, 1921, the plaintiff claimed title to land by prescription. In the Potomac River, on the Virginia side, opposite the District of Columbia, there is a cove in the river bank and in that cove accretions accumulated so there was a tract of made land, and this had been occupied for a long period of years by plaintiff with its tracks and yards.

The decision rested on the fact that through the grant of King Charles 1st, in 1832, to Lord Baltimore, Maryland acquired and passed to the United States, the territory within the District of Columbia. That grant included territory "to the farther bank of the Potomac River," and the court held that the boundary of the District of Columbia extended to the Virginia bank of the Potomac River, at

least to low water mark. The grant from Maryland to the District of Columbia had the same boundary and was made in 1791. The plaintiff's claim of a prescriptive right was to land below low water mark, on the Virginia side of the river, and was thus within the original prior grant through which the U. S. derived its title to the District of Columbia. In reference to this the court said:

> "It may happen that such filling as is done in this case will interrupt previously existing rights to the water front, *but that does not affect the right of the United States to the possession of the land.* What other rights, if any, the plaintiff in error may have, does not concern us now." (Italics are ours.)

Thus the court refused to permit a title by prescription to be established, as against a title in the United States obtained through a prior grant from the Crown, and *also* held that a private person, claiming title under the laws of Virginia, could not acquire prescriptive title to lands in the District of Columbia.

In *Polaski County v. State, 42 Ark., 118,* it is held that while the *State* may be *estopped* by its *express* grant, *no bar can arise from the laches* or unauthorized acts of its officers.

The complaint in the case at bar asserts title in Michigan through a direct prior grant from the United States. There is no claim of a grant from Michigan to Wisconsin.

Under the authority of the last cited case Michigan's title could not be barred, by the laches or unauthorized acts of its officers. The defendant has not cited any authorized acts of Michigan officers that would constitute a bar to her claim of title, and therefore, the motion should be denied.

In *Lott v. Brewer, 64 Ala., 287,* it is said that courts look with disfavor upon applying the doctrine of estoppel against a sovereign state.

It appears to us that a review of all case law this far cited fails to support the defendant's claim that in the position of this case before the court at this time there is any conclusive showing of laches, or acquiescence or in fact any showing of either, but that, on the contrary any such situation is distinctly negatived.

We have thus far made but slight comment upon texts cited by defendant in support of the theory of acquiescence as applied to this case, and we refer again to

Vattel's Law of Nations, Chap. 11.

There, under the topic of "Asquiescence" as a defense, "Usucaption" and "Prescription" are mentioned as subdivisions, and as applied between nations, are considered.

Quoting from Wolf, the writer says of Usucaption, that it is:

> "The acquisition of domain founded on a long possession, uninterrupted and undisputed; that is to say, an acquisition solely proved by possession."

As to prescription, the writer says:

> "Prescription is the exclusion of all pretentions to a right—an exclusion founded on length of time during which that right has been neglected."

Of it Wolf is quoted as saying:

> "It is the loss of an inherent right by virtue of a presumed consent."

At page 187 it is said that prescription is based on the principle that one is supposed to be obliged to take care of his property.

Of it it is further said (page 188):

> "It is true that if the bona fide possessor should

discover, with perfect certainty, that the claimant is the real proprietor, and has never abandoned his right, he is bound in conscience, and by the eternal principles of justice, to make restitution of whatever accession of wealth he has derived from the property of claimant."

Again it is said (page 188):

"As prescription cannot be grounded on any but *an absolute* or *lawful presumption, it has no foundation if the proprietor has not really neglected his rights.*"

This condition implies three particulars:

1. That the proprietor cannot allege an invincible ignorance, either on his own part, or on that of the person from whom he derives his right.

2. That he cannot justify his silence by lawful and substantial reasons.

3. That he has neglected his right, or kept silence during a considerable number of years; for, the negligence of a few years being incapable of producing confusion, and rendering doubtful the rights of the parties, is not sufficient to found, or authorize a presumption of relinquishment.' (Italics are ours.)

On page 189 it is further said:

"In cases of ordinary prescription the same argument cannot be used against a claimant who alleges just reasons for his silence."

Right here it is significant that the author also says (page 190):

"It must, however, be confessed, that, between nations, the rights of usucaption and prescription are

often *more difficult* in their application, *so far as they are founded on presumption drawn from long silence. * * * In such a case, therefore, it is not easy to deduce from long silence a legal presumption of abandonment.*"

Further considering the question, the author continues:

"To this we may add that, *as the ruler of the society has usually no power to alienate what belongs to the state, his silence,* even though sufficient to afford a presumption of abandonment on his own part, *cannot impair the national right or that of his successors.*"

Further commenting on the application of prescription to nations, it is said (page 191):

"Nay, more, as by virtue of that law nations are in all doubtful cases supposed to stand on the same footing of equal rights, in treating with each other, *prescription, when founded on long undisputed possession,* ought to have its full effect between nations, without admitting any allegations of the possession being wrong, *unless the evidence to prove it be very clear and convincing indeed.*" (Italics are ours.)

Another of Defendant's citations is

Wheaton's Elements of International Law.

Referring to Part 1, page 11, we read:

"A state is a very different subject from a human individual, from whence it results that the obligations and rights, in the two cases, are very different, * * * There are consequently many cases in which the national law does not furnish the same rule of decisions between State and State as would be applicable between individual and individual."

In this connection we cite further

Mayor of Kingston v. Horner, Cowper, page (02).

In that case Lord Mansfield said:

"Any evidence showing a time when the claim did not exist is an answer to prescription."

In *Richards v. Williams, 7 Wheat., 59,* it is said:

"Presumptions of grant * * * cannot arise, when the claim is of such a nature as is at variance with the existence of a grant."

The last is especially applicable to the nature of the title and possession of Wisconsin as appears from the complaint, and we further cite, to the effect that only that which is granted in clear and concise terms passes by a grant of property in which the government or public has an interest.

Rice v. Minn. & N. W. R. Co., 66 U. S., 358, 380.
Stein v. Bienville Water Supply Co., 141 U. S., 67.

Review of Facts as Especially Affecting the Claim of "Acquiescence" and "Laches."

In the light of these authorities the case for consideration upon this motion presents, as appears by the complaint and not weakened by documentary evidence, the following situation.

Michigan, through the Act of June 15, 1836, confirmed in January, 1837, received her grant of statehood from the United States, and therewith the right of sovereignty and domain with the boundaries therein described. The complaint alleges those boundaries to have been in accord with the boundaries claimed by Michigan in this case, and

for the purposes of this motion, we take it, such allegations must be taken to be true.

The complaint further shows that at that time Wisconsin was a Territory of the United States. It follows as a consequence that Wisconsin stood in privity with and was and is bound by the actions of the United States in making the grant and in its subsequent dealings therewith up to the time Wisconsin became a State. During that period Wisconsin's Territorial boundary along the disputed line was in accord with the line in the Michigan grant, the same as now claimed by Michigan.

In that situation the United States, through Congressional provision and its Department of War, directed and attempted a survey of the Michigan boundary along the present disputed portion thereof.

In January, 1841, Captain Cram who had been charged by the United States government with the surveying of that line reported that because of geographical conditions it was an impossible line, and that the boundary as described in the Michigan grant could not, as to a portion thereof, be laid down. That report was made a part of a Senatorial Document, and as such has remained ever since as an official record. The complaint alleges that that report misrepresented material facts, and that the line as described in the Michigan grant could have been laid down; another material misrepresentation charged in the bill is to the effect that the report was wrong wherein it stated that Lac Vieux Desert as therein referred to was the lake named in the boundary as Lake of the Desert. The complaint not only alleges that the report was wrong in that respect, but specifies that the Lake now known as Island Lake, some sixty miles from Lac Vieux Desert, is the Lake referred to in the description of the boundary as Lake of the Desert. The complaint further alleges that Captain Cram further misrepresented the facts when he reported that said Lac Vieux Desert was an essential point

in the boundary, and it alleges that said Lake is several miles from the boundary as described in Michigan's grant. Documents quoted in and maps made a part of the complaint support and furnish more details of the general allegations. The complaint further shows that Michigan relied upon that report as being true, and from the showing that Captain Cram was Captain of the Topographical Engineers of the War Department, it is made to appear that Michigan had a right to rely upon his report.

It further appears that in connection with that report Captain Cram made recommendations for Congressional enactments to so amend the boundary described in Michigan's grant as would, in his opinion, allow of a definite survey of part and a more easy survey of other portions of the line. In addition to the general showing of Michigan's reliance on and her right to rely on the truth of the report, the complaint sets out a joint resolution, adopted by the Michigan Legislature in January, 1841, reciting, almost in the language of Captain Cram, and unquestionably based on his report, that it appeared from a critical examination of the line that it was an impossible one. That resolution further recited a belief that a further survey would afford the locating of a line substantially in compliance with the intent of Congress, and it provided for the appointment by Michigan of a Commissioner, and requested the appointment by Congress of a Commissioner to accompany the surveyor in order to effect a location of the line. The United States and Michigan were then the only parties who could join in an adjustment, and Michigan properly requested it. Wisconsin Territory, though then in privity with the Federal Government, had no right of sovereignty, and no power to negotiate an adjustment. That resolution was tabled in the United States Senate, and, instead of complying with Michigan's request, Congress provided not for a further survey of the line of the grant which had been reported impossible, but for a survey and map of the country through which the line was described,

to enable Congress to decide on the line. At that time Congress and Michigan could legally have settled the boundary, by locating that line or agreeing on a new one. Again Captain Cram was sent by the Government to make the survey and map directed, and in his report of that survey he repeated his former representation that Lac Vieux Desert was an essential point in the boundary, and he reported the east branch of the Montreal as the Montreal, whereas the complaint alleges that the west branch thereof was the Main Channel and a part of the boundary. He also reported a point over six miles down stream from a lake (Pine Lake) at the head of the east branch, as the head proper of the Montreal and he marked it as such, while the complaint alleges Island Lake, at the head of the west branch is such point in the boundary. It also appears from the complaint that Captain Cram did not carry out the provisions of Congress for a survey and map of that country and did survey and include in his map the east branch of the Montreal River and name it the Montreal and that he did not survey, map or report the west branch. It further appears from that report that in surveying and reporting the East Branch as the Montreal River he arbitrarily established a monument more than six miles below the lake at the head of that stream, and he named that point, so marked, as the head of the Montreal, regardless of the fact that the description of Michigan's boundary calls for following up the main channel of the Montreal *to a lake,* and he reported the stream above that monument as an "inconsiderable" stream and called it Pine River, and he said there was a small lake at the head thereof which he named Pine Lake, thus practically repeating that part of his first report wherein he reported that the Montreal River was said to have no lake at its head. It also appears that that report was made a Senatorial Document and that it has ever since remained a public record, and that both said reports have continued to mislead the people of Michigan. The complaint further shows that the Cram reports represented the line recommended

by him would be substantially the same as that intended by Congress in the Michigan grant. The same situation appears as to the right of the public to rely on the second report and to the fact that it was relied on, as was the first report.

In 1842 and again in 1843 a Bill was introduced in Congress to Amend the Act of June 15, 1836, so as to make the now disputed portions of the boundary read substantially as Captain Cram had recommended, and substantially as Wisconsin now claims it. In that bill was a proviso that the same should not become binding unless ratified by Michigan within a specified period. By thus formulating the Bill it appears it was considered that Congress could change the boundary of its grant with, and only with the consent of Michigan. That bill failed of passage in each of the two separate Congresses. Thus the United States expressly refused to interfere with Michigan's rights under her grant.

In 1846 Congress passed the Wisconsin enabling Act with description of boundary as now claimed by ~~Congress~~ the and, though very materially different from the Michigan line, in fact, it was practically identical, except as to one point in the Menominee River, with the line recommended by Captain Cram, and which he had reported as being substantially the same as the line intended by Congress in the Michigan grant, and which he reported would give to each the State of Michigan and the Territory of Wisconsin substantially the same amount of the territory intended by Congress to be given to each. Notwithstanding Congress and the people had a right to believe those reports, and no reason to disbelieve them, a provision was made in that Act to the effect that *Congress would not be bound* by the description of the boundaries therein contained unless ratified by Michigan on or before June 1st, 1848. Thus again Congress recognized that the United States could not again grant what it had already granted to Michigan, and

because of the uncertainty as to the comparative lines and the possibility of their being in conflict, the proviso was inserted in the Wisconsin Act.

It must be clear from this that it was then recognized by all parties that Wisconsin's grant would not be effective as to such territory, within the lines of its described boundary, if any, as should be found to be within the lines of Michigan's described boundary, unless Michigan ratified the Wisconsin Act within the time specified.

Michigan Had Right To Be At Ease.

By this provision, and because of the said several reports, Michigan had the right to believe that the Wisconsin line was little if any different from the Michigan line, and that Wisconsin would yield to the Michigan line, in case of differences being discovered, unless Michigan gave way to Wisconsin, by ratifying the Wisconsin line within the specified period. No such ratification was asked or granted, and so Michigan had the right to believe Wisconsin was respecting and acknowledging Michigan's rights.

Thus, all the claim that Wisconsin then made to any of the territory which is involved in this proceeding was *under her grant* of August, 1846, *subject* to Michigan's right under her prior grant of 1836, unless Michigan should waive that right *within the specified time.* Not having secured the waiver the grant to Wisconsin did not become operative as to the disputed tracts. May 29th, 1848, within the period when Wisconsin was privileged to get Michigan's ratification, Wisconsin was admitted into the Union with boundaries the same as described in her enabling act; that is subject to Michigan's prior grant, in any point where the boundaries conflict, unless Michigan's ratification should be secured. Thus again we have Wisconsin's assurance of respect for Michigan's boundary when Wisconsin accepted

Statehood May 29th, 1848; Michigan had the right to feel secure.

Furthermore, Wisconsin's grant of Statehood was upon her having adopted a constitution (Defendant's brief, page 23).

In that constitution she expressly states,

> "that the State of Wisconsin doth consent and accept of the boundaries prescribed in the Act of Congress. * * *."

and there describing her enabling act, and following with a detailed description of the boundaries.

Here we again call attention to the *proviso* in the enabling act making the boundary subject to Michigan's and in that connection we call attention to the section of the Wisconsin Constitution next succeeding the one describing the boundary, which reads (Defendant's brief, page 24):

> "Section 2. The propositions contained in the act of Congress are hereby accepted, ratified and confirmed and shall remain irrevocable without the consent of the United States."

While there were other propositions contained in that act of Congress, we claim that this section is broad enough to and does accept, with others, the provision as to the boundaries, and that the provision was also accepted by Section 1, where the Constitution expressly accepts the boundaries described in the act, and which *as* described in the act were provisional. So that, aside from Michigan's knowing that she was entitled to priority because of her prior grant, and not knowing there was really any, but being advised there was none of consequence, if any, Michigan had all these assurances of Wisconsin that Michigan's priority of right would be recognized in case the several boundaries should be found to conflict, Michigan had the right to be at rest.

One further feature of Wisconsin's Constitution of importance in this immediate connection is the fact that in the description of her boundaries (Defendant's brief, page 23), through Lake Michigan and Green Bay, Wisconsin's boundary is described as running

> "with the boundary line of the State of Michigan."

Furthermore, it describes her boundaries, after reaching the mouth of the Menominee River, as follows:

> "Thence up the channel of said river to Brule river; thence up said last mentioned river to Lake Brule."

There is no mention here of so describing the channel into sections, for convenience of territorial location of the Islands, as provided for in her enabling act.

It is an established principle of law where a river is named as a boundary, without other specification, the center of the main channel is the boundary. Thus the Wisconsin Constitution described its boundary through Green Bay and through the Menominee and Brule rivers as exactly in accord with the boundary as described in the Michigan grant, and now claimed by Michigan.

This was nearly two years after the Wisconsin enabling act provided for a different division of the islands in the river, if Michigan would permit it. Michigan had not permitted it, Michigan's right to the main channel of the two rivers, and to the "most usual" ship channel of Green Bay was unquestionable, and, therefore, by the language of Wisconsin's Constitution Michigan was further justified in believing that Wisconsin was yielding to and would respect Michigan's boundary.

Michigan's Constitution of 1850.

Michigan's first constitution did not contain a description of her boundaries. As an instance by itself in history, Michigan, having for many years had the qualifications requisite for Statehood, but her appeals to Congress not being granted asserted her right to Statehood, because of her qualifications, and took the initiative by adopting a constitution without first procuring from Congress the usual enabling act. She then sought admission with boundaries as described in her Territorial act. This continued the conflict with Ohio, with the result that Congress denied Michigan's claims on the south and extended her boundaries to the northwest. This put Michigan in the position of having, as a portion of her grant, territory which had no representation in the adoption of the Constitution. True, the citizens in that portion of the state at that time could probably have been counted on one's fingers, but, nevertheless, such was the situation. Then followed the difficulties growing out of the Cram surveys, and Wisconsin's admission with her boundaries differently described and conditional, and with official reports on file representing that Lac Vieux Desert was an essential point in the boundary.

The Constitutional convention that framed the Constitution of 1850, faced the importance of stating a description of the boundary, varying somewhat from that in the Michigan grant, because Captain Cram had reported that Lac Vieux Desert was the lake which Congress called Lake of the Desert, and which Captain Cram reported Congress thought was at the head of the Montreal, and because of his report that the same was an essential point in the boundary. Wilderness continued to reign supreme in that part of the country, and the Convention had the right to believe, and had no reason to disbelieve the Cram reports. Therefore, in providing the description of the boundary in the Constitution because of the misinformation which those reports contained, the line of the boundary was deflected

from that described in Michigan's grant to the extent that in leaving the head waters of the Main Channel of the Montreal river, the Constitutional description of the boundary was made to run to Lac Vieux Desert, and then to the head of the Brule, instead of in a direct line from the head of the Montreal to the head of the Brule. In this connection we suggest our belief that a Constitutional Convention would not have authority to surrender any portion of the Territory for which it was authorized to simply form an organic law, but whether or not that is so the Complaint alleges, and the documents show that the change referred to was brought about by the misrepresentations referred to and the convention did not know that by such a change in the description important rights of Michigan would be sacrificed.

In this connection we call attention to the fact that, not only would such an act fail to meet the essentials of "acquiescence" because of lack of authority, and want of knowledge as to results on the part of the convention, but the act was brought about by the wrongful misrepresentations of an authorized representative of the United States, made at a time when Wisconsin, as a Territory, stood in privity with the United States, and furthermore, it seems to have been largely if not wholly inspired by the mistaken act of the Legislative Assembly of the Territory of Wisconsin in causing to be published the Judson map (Complainant's Exhibit B) as a copy of what was represented to be the most reliable map extant; while it was not such. It was that map which Captain Cram had, and of which he attached a copy to his first report. That was undoubtedly copied from a map now in the Library of Congress, printed in 1831 by John R. Tanner as said above. However, even if the Convention had no inherent right to surrender property, its positive declarations as to the right of the state, negative acquiescence in Wisconsin's claims to large portions of the boundary, for it follows exactly the description in the Michigan grant through the Montreal, Brule and Menominee rivers and Green Bay.

The Constitutional Convention of 1867.

All we have said as to lack of authority, lack of correct information, misinformation and misrepresentations that influenced the convention of 1850, is applicable alike to the Convention of 1867. In that convention there was a strenuous effort to make the proposed constitution conform to the Wisconsin description of the portion of the boundary west of Lac Vieux Desert.

The debates in that convention show conclusively that none of said mistakes and misrepresentations had been discovered, and it was strongly argued that if there had been mistakes they would have been discovered before that time, and it was also claimed that the convention could not prejudice Michigan's possible rights. Under those circumstances the convention described the boundary by including therein as monuments, Lac Vieux Desert and the Cram monument. It is a significant fact that the people repudiated that action and *refused* to adopt such change in boundary by their refusal to adopt the proposed constitution. That convention did, however, describe the boundary as following up the Main Channel of the Montreal river, and also the channels of the Brule and Menominee rivers and Green Bay, exactly as in Michigan's grant, thus again negativing "acquiescence."

First Discovery By Michigan of the Mistakes of Captain Cram and Others.

While the complaint shows that the country remained a wilderness until after 1885, and considerable of it is still such, it also shows that about 1885 George H. Cannon, while on a private exploring expedition, discovered that

the East Branch of the Montreal had been used as the boundary and that the West Branch was larger and was the Main Channel of the Montreal, but that this information was not brought to the attention of the State until about 1907, and that the State promptly thereafter took steps to assert its rights.

While as a matter of fact, for the purposes of this motion the statements in the complaint must be taken as true, we will say we have seen and expect to produce in evidence, a letter written in 1906 by Geo. H. Cannon to Peter White for the first time divulging his discovery as to the error in the Montreal river boundary. This letter is not a public document of which the court takes judicial notice, but the original can be procured as evidence.

It is evidence we are entitled to produce under the allegations of the Complaint, to negative laches, or acquiescence. The Complaint then alleges that Peter White promptly thereafter brought the matter to the attention of the Attorney General of Michigan, which fact was promptly followed by legislative action which resulted in Michigan's claims being presented, through Peter White, to the Governor and Legislature of Wisconsin with request that Wisconsin join in negotiations for an amicable settlement. This Wisconsin refused; the refusal was reported to the Michigan Legislature, and the Legislature at the same session, in 1907, directed the Michigan Attorney General to cause a survey to be made, and to take such action as might be necessary to protect Michigan's rights.

The complaint alleges that an engineer was employed and investigations were begun, but no survey was made and investigations were not completed. Among other things the complaint shows that a letter from a Government official at Washington in answer to an inquiry concerning Captain Cram's report, stated that Captain Cram established the line and that his report was approved by Congress. It further appears that the then Attorney General

went out of office without filing a report, and that the engineer employed died. We might add, perhaps as an historical fact with so important a personage as Hon. Peter White, who had so interested himself in behalf of the state, died in 1908. At least we should be permitted to so prove before being charged with laches since then. Under any circumstances, the situation developed as set forth in the complaint, was such as would require several years to ferret out, and it involved a task practically impossible for a man with so many duties as devolve upon an Attorney General, and then, too, nothing had been surmised of any other mistake than that of taking the East Branch instead of the Main Channel of the Montreal river. From that time on, even if nothing had been done by the Attorney General, there was not sufficient time before the further legislative action in 1919, hereinafter referred to, to constitute either "acquiescence" or laches if such a defense could be pleaded. However, these were negatived by the

Constitutional Convention of 1908.

By that convention all possible theories of acquiescence were negatived, so far as could be with the knowledge of the situation then at hand. The convention was exactly in the situation which the conventions of 1850 and 1867 had been as to the knowledge of the country; the misrepresentations and misinformation, except as to the one discovery that the East Branch of the Montreal river instead of the West Branch had been used as the boundary, and that the claimed boundary had stopped short of following even the East Branch to a lake at *its* head. The convention with that knowledge, but still relying on Captain Cram's report that Lac Vieux Desert was an essential point in the boundary, included in the constitution then formed the boundary as described, and the only deviation therein from the description in Michigan grant was by emphasizing the fact that the West Branch of the Montreal, with Island

Lake at its head, was the Main Channel and a part of the boundary, and then, because of said misrepresentations as to Lac Vieux Desert, deflecting the line from Island Lake to the head of Brule river so as to pass through Lac Vieux Desert, instead of taking the direct line as provided in the grant.

As to the boundary through Montreal, Brule and Menominee rivers and through Green Bay, the constitution of 1908 reaffirmed Michigan's claim to the boundaries as described in her grant.

As to the deflected portion of the boundary the act did not constitute an "acquiescence" because of the misrepresentations and misinformation that induced it, and as to all other portions it positively negatived acquiescence. That Constitution was adopted by the people of Michigan and became effective January 1st, 1910, and thereby *the people effectively and expressly* negatived acquiescence in so far as the errors had been learned. They could not acquiesce in those of which they had no knowledge.

Michigan's Boundary Commission.

In 1919, Michigan Legislature, which meets only biennially, provided for the appointment of a Commission to investigate the disputed boundary, and gave to it authority to negotiate with authorities in Wisconsin for an adjustment of the boundary, and, in connection with the Attorney General, to take such action in the courts or otherwise as might be necessary to determine the rightful boundary.

That Commission, and, through it, the state first discovered the errors of Captain Cram as to those portions of his report regarding Lac Vieux Desert, and as to that portion representing that the Michigan line was an impossible line, first discovered that at the time of the Mich-

igan grant in 1836, Congress had the map shown as Exhibit A of the Complaint and knew of the Lake connected with the Montreal river mentioned in the description of the boundary as one of the Lake of the Desert and referred to as the Lake of the Desert reached by ascending the Main Channel of the Montreal. Discovery was also then first made and communicated to the officials of the State that many Islands in the Menominee river and in Green Bay really on the Michigan side of the boundary channels had been surveyed in connection with the surveys of Wisconsin, and Michigan did not earlier know that any islands connected with the Wisconsin survey were, in fact, on the Michigan side of such boundary channels, which, as a fact, the Complaint alleges them to be. Said Commissioners also had engineering done upon both the Montreal and Menominee rivers, and following such investigation, in 1921, invited Wisconsin to join in negotiations to determine and settle all the now disputed portions of the boundary, but Wisconsin refused and, after further investigation by the Commission, this action was, with permission of the court, commenced.

We submit we have made a fair statement of the showing by the complaint and that it sets up a good cause of action as to each and every the specified divisions of the disputed boundary, and affirmatively shows that the plaintiff has not acquiesced in the wrongs complained of and has not been guilty of laches.

The foregoing statement has been practically based on the allegations of the complaint itself on the theory that the public documents referred to in defendant's brief do not modify the showing by the complaint and do not, in view of the cited authorities, even tend to establish acquiescence or laches, not to say *conclusively* establish the same, as would be essential for the support of this motion.

We therefore desire now to make

Comments on Documents Cited and Errors Found in Defendant's Brief.

Defendant's counsel say (brief, page 8):

> "The description of the boundary contained in the enabling act of the State of Michigan contemplated a continuous waterway separating the Northern Peninsula from the rest of the territory."

This is erroneous. A careful reading of that description (Defendant's Brief, page 4) conclusively shows that the above quoted statement is wrong, for, after arriving at the Lake of the Desert as named in that description, the course reads,

> "thence in a direct line to the nearest headwater of the Menominee river."

It is quite apparent that this erroneous statement was arrived at from reading Captain Cram's erroneous comments on the use by Congress of the erroneous map of which Captain Cram attached a copy to his report, explaining its inaccuracy, but wrongfully concluding that Congress was guided, in writing the description of Michigan's boundary by the map (Complainant's Exhibit B). Cram so argued in his report, notwithstanding a reading of the description is convincing otherwise. The map (Complainant's Exhibit A) is the map Congress had and it tallies with the description referred to. Captain Cram's report seems to have misled defendant's counsel to make the erroneous statement quoted above, and perhaps this is the most forcible illustration at hand of the misleading influence we have attributed to several features of the Cram reports. From their discussion of those reports in the pages following the quoted paragraph we believe we are justified in the conclusion that Captain Cram's errors in his report furnish the reason for the error of counsel in

the quoted paragraph, because they follow that paragraph with several pages of quotations from the report, a number of which were erroneous conclusions of Captain Cram's as subsequent developments conclusively show.

The next error we will refer to may be simply clerical, but its importance warrants this attention. On page 13 of the brief it is said:

> "As to the most usual ship channel of Green Bay, Captain Cram was not in doubt."

It appears to us the word "not" makes the statement erroneous. In this we find support in the quoted statement from the report further down the page, where he says of the channels that there are at least two and that it would be next to an impossibility to get evidence to decide which was the most usual one.

Defendant's Attempt to Show Ambiguity in Boundary.

Again we are supported in our position that Captain Cram was wrong in many features of his report, and that the same was grossly misleading, by the comment we find thereon at the top of page 14 of defendant's brief, where it is said:

> "Captain Cram's whole report goes on the assumption that Congress has described a boundary that could not physically exist and that therefore no land titles became fixed by it. His report quite apparently indicates a latent ambiguity in this description of the boundary."

Thus we have counsel's frank confession of Captain Cram's conclusion and report that the boundary described in the Michigan grant was an *"ambiguous"* one *"that could not physically exist."*

Undoubtedly it was upon this report that counsel have

adopted and have wrongfully charged plaintiffs with having the theory that the line of the Michigan grant was an ambiguous one.

That the line of the boundary so described was not ambiguous is positively shown by the records, and the mistaken report of Captain Cram in that regard is one if not the principal occasion of this trouble; it is one of the errors charged in the Complaint.

All that is necessary to establish the error is to take the map (Complainant's Exhibit A) which Congress had when the grant was made, or the engineer's map (Complainant's Exhibit E), and from either trace the boundary. Take Exhibit A, start the description at the mouth of the Montreal river (Complaint, page 2) reading:

> "thence through the middle of the Main Channel of said river Montreal, to the middle of the Lake of the Desert."

If Captain Cram had taken that course, and especially if he had had with him the map (Complainant's Exhibit A) instead of the erroneous map (Complainant's Exhibit B) when he came up the Montreal to the lake, in Exhibit A shown as one of the Lakes of the Desert, he must have determined that to be the Lake of the Desert shown to be connected with the Montreal; the Lake of the Desert to be found by following up the channel of the Montreal and consequently, a point in the boundary. The Complaint alleges that the Lake at the head of the Main Channel of the Montreal was known to Congress as one of the Lakes of the Desert and was the Lake of the Desert mentioned in the description of the boundary (Complaint, page 4), and that is sufficient, for this motion. Arriving at that Lake and locating its center the engineer would next, by a course of engineering, have determined the location of the course of the boundary as described,

> "thence in a direct line to the nearest headwater of the Menominee River."

English could hardly be plainer. There is nothing ambiguous about it. It was Captain Cram's mistake when, with his old erroneous map he determined that the Lake at the head of the Wisconsin, then and now known as Lac Vieux Desert, was the Lake which Congress thought was the head of the Montreal.

And counsel refer to Captain Cram's said report, which is now proven to be incorrect, as a piece of documentary evidence, to *conclusively* prove the complaint erroneous in an essential feature, and to prove that by it Michigan was informed of exact conditions in that part of the country.

Apparently to further contradict the allegations of the Complaint that the boundary could have been laid out as Michigan claims, defendant's counsel publish, following page 14 of their Brief, map No. 2 attached to Cram's report, showing as he then erroneously reported, a more perfect illustration of the Montreal, and with no lake at its head. That map, made from hearsay, as his report shows, and now shown to be grossly erroneous, emphasizes plaintiff's allegations of misrepresentation. We can hardly see how that can be introduced as documentary evidence of a *conclusive* character to contradict allegations of the Complaint and unless it is so claimed to be we cannot understand why it is introduced by defendant at all.

In discussing Captain Cram's work in connection with the Montreal River (Brief, page 16) defendant's counsel are in accord with our views where they say he "*deliberately*" fixed the junction of two streams "as the head proper of the Montreal river," only we say he "*arbitrarily*" did so. He was not at that time authorized to locate any boundary. That was his second trip when he was to survey and map for Congress the country through which he had reported the Michigan boundary as described could not be laid down. If he had had authority to act he should have found the lake at the head of the stream as the description required.

We wholly disagree with and challenge the correctness of the statement on the same page where it is said:

> "All the facts with relation to these streams and this part of Montreal river were fully brought out and minutely mapped, and * * * Congress for the first time had before it such accurate information upon which it could fully designate a specific and fixed boundary line."

Our exceptions are two fold. According to the Complaint, supported also by documents, Congress was not given the details it had called for, and it was not informed of the facts regarding or a survey of the West Branch of the Montreal River which the Complaint alleges to be the Main Channel and a part of its boundary, and was not informed as to the lake at its head. Furthermore, Congress could not at that time change the boundary of Michigan's grant without the consent of Michigan.

As to the *Burt Survey* (Brief, page 18), we refer to it to emphasize the statement in the brief in three particulars, first it was ordered as a survey of the Wisconsin and not the Michigan boundary, second, it was ordered four days after the passage of the Wisconsin enabling act while the line was known to be conditional, and subject to Michigan's ratification, if it should conflict, as it did, with her boundary, and, third, in making the survey Mr. Burt was given no discretion as to boundary, but was directed to survey and mark the Line from the Lac Vieux Desert to the Cram Monument. So there was no feature of it that could affect the issues here. We would like to add here, as an historical feature, provable by public records, that excitement in the copper regions to the north had then become intense, and there was an insistent demand for a survey of the copper country. As a consequence the United States had Mr. Burt sectionize the country between that line and Lake Superior, and Mr. Burt did that in connection with his survey of the Cram line. This fact is shown on his map of that survey.

Under the authorities quoted above of

United States v. Texas, and
Texas v. Oklahoma,

those acts were only incidentals of government and could not be held to effect indirectly what the Government had, almost in conjunction therewith, refused to do directly. But at any rate all the sectionizing was within what belongs to Michigan anyway, and there was no occasion to object.

The Wisconsin Enabling Act.

This is referred to in defendant's brief, page 19. It was the line specified in that act that Mr. Burt was directed to survey between certain monuments there mentioned. It was equally different from the Montreal and Menominee River Sections of Wisconsin's Territorial boundaries as it is different from the boundary now claimed by Michigan.

Defendant's Comments on Michigan's 1908 Constitutional Convention.

We challenge both the correctness and the propriety of the statement at top of brief (page 22), in regard to the quoted remark of a reason said to have been given in the convention by Mr. Burton, Chairman of the Committee on boundaries. Neither in the argument presented or in the debates of the convention do we find the slightest justification for the statement in the brief regarding the quotation favoring the change in the wording of the boundary description as

> "solely for the purpose of forcing from the State of Wisconsin a favorable settlement."

The description of the boundary as contained in former

constitutions having been found infringed upon, and Wisconsin having then refused to accept Michigan's invitation to an amicable adjustment, and the Michigan Legislature having then directed the Attorney General to have a survey made and to take such action as necessary to settle the question, it was highly proper that the convention declare itself positively as to its claims on that portion of the line in dispute.

It is quite probable that Mr. Burton shared the peaceful attitude which Michigan had already exhibited, and he may have indulged the hope that Wisconsin would yet doff its war paint and join in an amicable settlement, but, whether it was to be peace or war, the declaration of the boundary specifically, at the point where it was known to be in dispute, was commendable.

The change in the wording was the action of the convention and not simply of "some of the delegates." The disputed territory at that time had been within the Wisconsin claimed, conditional boundary from 1848 to 1908, or sixty years. It had not

"for nearly a century belonged to Wisconsin,"

as stated on the same pages of the brief, and thus we challenge both their correctness and propriety.

These random statements may not be of great importance, but there has already been too many misleading incidents in connection with this boundary, and so we do not dare pass them by for fear we may be said to have "acquiesced" and our comments seem called for even at the expense of a long brief.

Defendant's Analysis of Michigan's Claims.

This is found on page 24 of Brief.

We agree with subdivision (a), paragraph 1, to the extent that it applies to Michigan. That *the boundary of Michigan* as *described in its grant*

"is fixed and certain, and unalterable,"

except with the consent of Michigan.

We do not agree that the same rule applies to the description of the boundary in the act creating Wisconsin Territory. The *course* of the line was the same in the two acts, but our position is that by the creation of the Territory of Wisconsin, as of all our other territories, there was no grant of sovereignty, and Wisconsin gained no vested rights in the land. Michigan had learned this to her then sorrow in the contest with Ohio.

We positively disagree with subdivision 2, and assert Michigan's claim to be that her boundary remains the same as in her grant, but that it has been transgressed by Wisconsin whose transgressions were submitted to only because of misrepresentations, and of lack of knowledge in Michigan that her rights were being transgressed.

The present line claimed by Wisconsin as the boundary never was laid down as Michigan's boundary and never was accepted by her as such.

Subdivision 3 is also erroneous. It is plainly stated in the Complaint that no knowledge of any of these transgressions came to the officials of Michigan until *1907*, not *1885*, as stated in defendant's brief; though, of course, a little matter of 22 years is not much as between states.

As to subdivision (b), paragraph 1-a, we indorse it.

Paragraph 1-b, we indorse except that part (page 25) where it says Michigan's theory is

> "That Island Lake is the Lac Vieux Desert intended by Congress."

We would correct this by saying that our theory is that *Island Lake is* the *"Lake of the Desert"* named in the description of Michigan's boundary. *Congress did not* use the name "Lac Vieux Desert" in describing the boundary. We protest that those names have already caused too much confusion, and it ought not to be added to.

We challenge paragraph 2 of subdivision b (page 25). We do claim Michigan owns to the Main Channel. If Wisconsin withdraws her claims to any islands on the Michigan side of the Main Channel we will have only to further request the location of that Channel.

It is Michigan's claim that she never knew, until 1921, that any islands included with the survey of Wisconsin were on the Michigan side of the Channel.

Defendant's Discussion of Michigan's Principal Claims (Brief, page 25).

Again we must disagree with the general statements.

Our proposition *does not* presuppose a knowledge of all details of the country. It does presuppose a general knowledge that enabled Congress, by designating the Main Channel of the Montreal to fix a definite line to a Lake which existed at its head, and from there it was only a matter of engineering to go in a direct line to the nearest head water of the Menominee. There was nothing indefinite. The grant was positive.

Michigan's complaint is not susceptible of the construction defendant there puts upon it, and again defendant

seeks to use a map, characterized by plaintiff as erroneous, to disprove allegations of plaintiff charging the map with being erroneous. The Complaint shows the map (Complainant's Exhibit 2) to have been similar to a map used by the Judiciary Committee in 1834, when the committee tentatively agreed on the general location of the boundary to be along the courses of the Montreal and Menominee rivers, which, on that map were shown to have a common source in a lake, or several connected laches, thus showing a continuous waterway.

The Complaint specifically alleges (Complaint, page 4) that prior to the grant in 1836

> "it was learned by Congress that the said boundary was not a continuous water boundary and that there were numerous lakes in that part of the territory from the head waters of the Menominee River to the head waters of the Montreal River."

The map (Exhibit B) is attached to the Complaint as a part of the showing of Captain Cram's error in interpreting the understanding of Congress, and not to show the understanding of Congress at the time of the grant. We seem to have been unable to prevent defendant's counsel from again being misled by the map portion of Captain Cram's report.

Among other errors is the statement (bottom of page 25) that the claim is founded on the proposition

> "that Congress had in mind and knew the exact volume of water flowing through the various branches of the Montreal."

The statement characterizes itself. The exact reverse is true, that is, that Congress, knowing there was or might be more than one channel of the Montreal river, and not

knowing which was the *Main* channel, designated the "*Main*" channel as the boundary so it would be definitely determined and could be laid down.

Congress Did Not Consider the Boundary Temporary.

A statement that it did is found in defendant's brief (page 26), but no *fact* to sustain it is pointed out. Congress sent the second surveying expedition because Captain Cram had erroneously reported that the Michigan line was a geographic impossibility. Not because there had actually been any uncertainty in the line of Michigan's grant.

The statement is erroneous (page 26) that Congress *more specifically* described the (Michigan) boundary

> "and directed a survey to be made and the line, not evidenced by natural boundaries, properly marked with proper monuments. This was done by the survey of Burt in 1847."

What we have heretofore shown as to the Burt survey refutes the correctness of this statement. The Burt survey was of only a part of the boundary described in the Wisconsin Enabling Act and it was made when that line was specifically subject to ratification by Michigan. It is going too far altogether, to say that by that proceeding Congress made the Michigan boundary more specific, while it is perfectly clear that Congress took especial pains not to in any way affect the Michigan boundary, and expressly said so.

In defendant's brief (page 27) it is said:

> "*The present boundary is in substantial accord with the original description contained in the enabling act of Michigan, and the Wisconsin Territorial Act.*"

If counsel had said the present *boundary as claimed by Michigan* is *exactly* the same as in the Michigan grant and the Wisconsin Territorial Act, the statement would have been correct. If they claim the boundary claimed by Wisconsin is the same, they are far from correct, as it varies exactly to the extent of the issues in this case.

At the expense of monotony, we must again say that counsel present the erroneous report of Captain Cram to support their erroneous theory, and refer to a portion of that report which the plaintiff charges with having been especially misleading where he says the line he recommends is substantially the same as that of the Michigan grant, which was far from correct, and counsel to support said false theory continue to indorse and use Cram's erroneous conclusion that Lac Vieux Desert was an essential point in the boundary instead of the Lake of the Desert which Congress named and which was [illegible]ated as Congress described it; as connected with the [illegible]ntreal river.

The balance of the argument on page 28 as to the effect of the course of the Montreal river on the question of which Branch Congress intended, seems hardly appropriate to this argument, as there may be much evidence on that point, which can be produced at a hearing on the merits. However, as the point has been raised, we submit that by a comparison of any of those maps of that day with a map of the situation as it is, even by taking the West Branch, as Michigan claims we should, as the boundary, and then running from Island Lake to the head of Brule river, Michigan is getting much less territory than Congress intended she should have, taking any of those early maps to indicate that intent.

Defendant's counsel also say (Brief, page 29):

> *"The Public Officials of Michigan were aware of the situation with reference to this boundary."*

This would have been more accurate had it read *the public officials of Michigan were misinformed and misled by Captain Cram's first report* regarding the boundary.

Counsel quote, in support of their proposition, the joint resolution of the Michigan Legislature of January, 1841, whereby Michigan, by reason of Cram's report that the Michigan line was an impossible one, proposed joining the United States in sending Commissioners to settle it. Here again the erroneous proposition is based on an erroneous part of the report complained of.

The further argument (page 30) that by the enabling act of Wisconsin, Congress specifically placed a construction on the Michigan boundary is wholly fallacious, for, by the proviso in the act, Congress *expressly refused* so to do.

If, perchance, we omit specific criticism of any erroneous statement in defendant's brief we ask the court to consider that we be not found to have "acquiesced" therein, but to have considered them criticised by our general statement of plaintiff's position, and this we ask to defendant's reference (page 30) to the Constitutional Convention of 1850, of which we have already written.

We can not, however, pass without criticism the historical quotation and the comment thereon found on page 31.

Dr. Houghton did not Accompany Captain Cram and Captain Cram did not survey any line west of Lac Vieux Desert in 1840.

Counsel say:

> "The familiarity of the public authorities of Michigan *with the exact situation existing* with *reference to this boundary line is clearly established when it is considered that Dr. Houghton,* State Geologist of Michigan *in 1840,* accompanied Captain Cram on his first surveying expedition." (Italics are ours.)

This was in support of a quotation made from a document as follows:

> "Historically considered the exploration of this region commenced in 1840, when Dr. Houghton, as Commissioner of the State of Michigan, accompanied Captain Cram, the State Topographical Engineer, who was then surveying the Menominee and Montreal rivers."

We hardly know where to begin on the many errors in these two quoted paragraphs.

Referring to the document from which the quotation is made, we find it to be an historical article by Charles Witelsey written in 1849. Following the quoted portion he says:

> "In 1840 and 1841, Dr. Houghton examined the rocks on both these streams and the country between their sources."

He makes no pretense of writing on the boundary.

The *Historical* quotation is so inherently erroneous that it condemns itself. We can find no record of Dr. Houghton having been "Commissioner of the State of Michigan in 1840," or of his having accompanied Captain Cram while he was surveying. If so important a personage as Dr. Houghton had accompanied Captain Cram, and especially if he had accompanied him "as Commissioner of the State of Michigan" Captain Cram, who was making the survey would undoubtedly have mentioned it in his report. Another error in the *historical* paragraph quoted is the statement that Captain Cram was *"State Topographical Engineer,* when as a fact he was Captain of the Topographical Engineers of the War Department of the United States.

Furthermore, the reference to Dr. Houghton as having been a Commissioner for Michigan in 1840 and his accompanying Captain Cram on his survey, as furnishing

information to Michigan officials as to the facts regarding the boundary are condemned in themselves. Captain Cram did not survey the disputed part of the boundary in 1840. He did not even traverse the country West of Lake Vieux Desert that year, but he made a very erroneous map, from hearsay, and erroneously reported the country so the people were misinformed instead of being informed as to the facts. Because of that report, and in January, 1841, the Michigan Legislature provided for the appointment of a Commissioner to accompany a Commissioner to be appointed by the United States but Congress did not meet the proposition and so no Commissioner was required. There was no occasion for such a Commissioner in 1840, the time referred to in the quoted paragraphs.

The assumption of counsel is fully refuted by reference to Dr. Houghton's reports as State Geologist for the two years 1840 and 1841.

His report for the year 1840 made early in 1841 says:

> "My individual labors during the past season (1840) have been chiefly devoted to surveys connected with the *northern slope* of the upper peninsula, and to this district the chief observation in this report will be directed."

Judicial notice will be taken of the fact that the "northern slope" of the peninsula occupies a very narrow strip along the south shore of Lake Superior. Of this he says (Report, page 11):

> "Montreal river is a comparatively small stream, *made up of numerous small tributaries, that rise* among the ranges of hills to the *southwest and southeast* of its mouth. The passage of the river through the range of hills near the lake gives rise to several very considerable water falls, as also to much rugged and wild scenery. * * * *This stream, it will be recollected, forms a portion of the boundary between Michigan and Wisconsin.*" (Italics are ours.)

So here, at first hand, is the extent to which Dr. Houghton informed the people of Michigan of the facts regarding the boundary. That he was not with Captain Cram in his work on the boundary is conclusively shown by the reports of the two gentlemen. Captain Cram reports his work as up the Menominee river and surveying from Brule Lake to Lac Vieux Desert where he arrived in October and could go no farther, one reason therefor being the lateness of the season.

Pardon a slight digression in argument here. Dr. Houghton mentions the Montreal river as "made up of numerous small tributaries that rise * * * to the *southwest and southeast of its mouth.*" That rather counters defendant's claim that the West Branch was not a part of the Montreal river but was the "Gegogosugon." The Montreal, as it appeared to so big a man as Dr. Houghton, was made up of the entire system with branches rising both southwest and southeast of its mouth. Dr. Houghton simply and casually mentioned that the Montreal river was the boundary. He does not discuss which Branch. Captain Cram had not then seen the Montreal and no attempt had been made at its survey.

To argue that such quotations as that in the brief are "conclusive" or even that Michigan was informed by Dr. Houghton of the conditions along the boundary in 1840 is, as appears to us extremely fallacious.

Dr. Houghton's report of his work for the season of 1841 mentions geological features between the heads of the Menominee and Montreal Rivers, but makes no mention of any difficulties concerning the boundary. That was the season Captain Cram was surveying the country to make a map to aid Congress in locating the line which Captain Cram had, the previous year, reported impossible. It follows, as a consequence, that Dr. Houghton could not give to Michigan officials information which Captain Cram was charged with getting for the United States, but failed in part to get, and while Dr. Houghton was giving his at-

tention to the mission assigned to him, the making of the very important geological survey.

The discussions following (Brief, page 31) as to the intent of Congress regarding the channel of the Montreal river to be followed (page 32), regarding Island Lake being a point in the boundary (page 33), regarding the Menominee river boundary (page 34), as to the Green Bay boundary, and (page 35) as to the most usual ship channel, are each upon matters of fact alleged in the Complaint. We have discussed each topic in our general showing as to plaintiff's case. Nothing, at least nothing *conclusive* is presented on any of these points to alter or refute the allegations of the complaint.

Counsel's statement (page 36), "*That discrepancies they have pointed out show that public records entirely contradict the fundamental principles of the Complaint.*" The only foundation for this that presents itself to us is the Cram reports and the "Historical" article quoted from. We have endeavored to show both extremely erroneous. We believe, at least, they do not show themselves to be and there is no showing that they are all the evidence presentable on the issues to which they refer. Furthermore, the plaintiff ought to be permitted to prove her allegations in the complaint as to the errors in those reports.

Defendant's Discussion of Motion to Dismiss Being Proper Remedy.

We do not deny but that a motion to dismiss is the proper remedy when the Complaint alone, or the Complaint in connection with *conclusive* evidence in the form of Public Documents show, conclusively that there is no cause of action.

We do say, however, and we believe our argument is such as shows that fact, that there is no showing that all

the evidence that can be produced on any essential allegation is before the court, or that any document cited contradicts conclusively any material allegation. We have not been able to discern that any such an instance has been pointed out.

Further, on this heading, we do understand that if a complaint, attacked by a motion to dismiss, is found wanting in any particular essential, it is the usual practice to afford an opportunity to amend, but as yet we have been shown no necessity for an amendment.

The defendant's quotation (page 38) from the case of *Rhode Island v. Massachusetts* is in support of our position, and is to the effect that where a contest is set up as to an *original* boundary, and a plea is interposed to the effect that the *boundary has been settled by compact,* and if the plea is found to be "sufficient in law and true in fact, it ends the case."

That involves a question of fact the truth of which is a matter of evidence, and unless it is so presented, by demurrer or otherwise, as to show the facts are before the court, the case can not be disposed of on either demurrer or motion.

In that case a question was raised as to whether a settlement by compact had been obtained by false or mistaken representations, and the case was tried on its merits.

Scope of Judicial Notice as to Historical Facts. (Defendant's Brief, page 39).

We do not contend but that Judicial notice may be taken of Historical records but we do claim that, as a rule at least, they are only *prima facie,* and not *conclusive* evidence, and that in this case no documents cited are more than prima facie evidence on any essential feature of the case, and therefore they are not available for the purposes of defendant's motion.

Wisconsin's Claim of Sovereignty Over Disputed Territory.

At page 42 of defendant's brief we find stated a claim that by the Complaint, Michigan admits Wisconsin's sovereignty over the disputed territory from 1836 to 1907. It is not pointed out where there is such an admission. Our idea of sovereignty is a lawful exercising of *supreme* control within a certain jurisdiction. Our idea of the allegations of the complaint is that Wisconsin took possession, not in 1836 as stated, but in 1846 or thereafter under the express provision of its Statehood grant, to the effect that if its boundaries anywhere conflicted with those of the Michigan grant, Wisconsin would have to give way to Michigan's prior grant unless Michigan *ratified* the Wisconsin claimed boundary. Wisconsin's possession, therefore, was taken subject to Michigan's rights. It has never changed. It accepted the provision of its grant and took possession thereunder, and has never changed the nature of that possession of control. It may have been complete but it never was *supreme*, never was sovereign, and never was such a possession as would furnish a foundation for prescription. It never was adverse, in the true sense of the word, until, in 1907, Wisconsin refused to negotiate regarding a settlement of the boundary. It always has been subject to the same proviso which was a condition of the grant. The establishment of the Michigan line has been delayed by mistakes and misrepresentation but now that the truth is known and Michigan's rightful line can be established, Michigan asks Wisconsin to abide by the accepted terms of her grant and give up what she has so long held against the rights of Michigan. To use the language of Vattel cited by defendant and quoted above, Wisconsin

> "*is bound in conscience, and by the eternal principles of justice to make restitution of whatever accession of wealth he* (she) *has derived from the property of claimant.*" (Italics are ours.)

Defendant's Heading, "The Boundary as Claimed by Wisconsin Has Been Universally Recognized."

At page 43, under this heading it is said that in order to sustain this motion defendant proposed "to submit to the court various official acts of the government of the United States, and the governments of the States of Wisconsin and Michigan, indicating on the part of the United States the construction placed upon the boundary line as originally defined by the first act of Congress, and as later more specifically defined by the Wisconsin enabling Act, and, as far as the states of Wisconsin and Michigan are concerned, indicating a recognition of such boundary and an acquiescence in the acts of Congress with reference thereto."

By the first part of the quotation *it is admitted that the complaint on its face states a cause of action,* because, *in order to win the motion,* these other things must be offered. Furthermore, all that is claimed, in the quoted statement, for the things offered is, that they *"indicate"* the intention of the parties. It is not even *claimed* that any of them are *conclusive* in their respective spheres. Therefore, under the terms of the offer, they are not admissible, and will be ineffective for the purpose of the motion.

But considering them further, we say that after the Michigan grant, Congress persistently and successively refused to construe it, never did construe it, and could not bind Michigan by any construction it might put on it. We think we have already made clear our position that Michigan has never, by any of the acts referred to, acquiesced in the line as a settled and proper boundary.

Among defendant's specific instances cited are

Recognition by the United States (brief, page 44).

There reference is made to the fact that the complaint alleges that the government of the United States included

islands on the Michigan side of the main channel of the Menominee River, in the surveys of Wisconsin, and an allegation that Michigan had been prevented from taxing them. The brief also states (page 45) that the complaint alleges that officials of the U. S. Government "have made representations to the effect that said boundary had been settled by Congress."

The above cited instances are all thoroughly disposed of and rendered ineffective by various of the above cited authorities on the question "of acquiescence," especially the Oklahoma cases. For Congress would not, by indirect action, be held to intend to do what she expressly refused to do, and the other instances are incidental occurrences liable to happen in affairs of government, held not to be binding to the extent of forfeiting the rights of the sovereign.

The allegation as to Michigan being prevented from taxation is based on the alleged fact that the lands were included in the Wisconsin surveys, and the boundary has not been established. How could Michigan tax them? Further, the allegations of misrepresentation to, and lack of knowledge on the part of Michigan, furnish a complete answer to every point of claimed acquiescence.

The bulletins *referred* on page 46 are no more than individual opinions on certain conditions, in no sense *conclusive*, on anything stated therein. They certainly could not deprive the court of the privilege of construing, or in any way affect a construction of the documents on which the opinion is supposed to be based. The question of whether or not Michigan's boundary was established depends upon documents of far greater weight than individual opinions upon the subject found in Government Bulletins.

Our discussion of the topic of "acquiescence," and citation of authorities thereunder, completely answers every

one of the citations by defendants of instances claimed to *indicate* acquiescence. Of those defendant's brief cites

United States Land Office Survey (page 47).

The fact that section lines in a Government survey were made to terminate at a conditional boundary cannot be held to imply an acquiescence which Congress had expressly refused, or an acquiescence by Michigan in a transgression of which she had no knowledge, and on which she was lulled to repose by misrepresentations.

Other Official Surveys (brief, page 48).

Under this head the claims are fully covered by the comments last preceding.

We must, however, protest the repeated claim there that the Cram survey, where the line is in dispute, is an *official* survey of the *Michigan* boundary.

Surveyor General's Maps (page 50).
Reports of Surveyor General (page 50).
Geological Surveys (page 52).
Owen's Geological Report (page 55).
Later Surveys and Reports (page 59).
Water Power Report (page 60).

The comments under each of these topics fail to disclose an instance of any action requiring criticism of the boundary by the party in charge, or any act by any party having authority to bind the state to the extent of forfeiting territory, or by any one who had any knowledge of the transgression of Michigan's rights by the location of the line claimed to be acquiesced, etc.

"Lighthouses indicate usual channel" (page 61).

As to this topic the word *"indicate"* is good, but lighthouses are not *conclusive* evidence of the *most usual* channel. A lighthouse may serve as a guide into a harbor, or various other purposes. It is an item to be considered

with others. The Complaint did mention a Lighthouse built on an island in Port du Mort passage in 1848 as evidence of that being the most usual ship channel, but not as conclusive evidence thereof.

Defendant's brief (page 61) refers to a statutory provision in 1834 for a Federal Government light on "Pottawattomie" Island, and the brief alleges that that was what is now "Rock" Island. We have only the allegation in the brief as to the claim that the Island called "Pottawattomie" in the Congressional act is the island now called "Rock" Island. We will say, however, that we find eight maps, most of them of very early date, and some of them in the Library of Congress, wherein the Island now called Washington, is named "Pottawattomie," though with varied spellings of the name, and we did not find a map on which the island now called "Rock" was named "Pottawatomie." Washington Island is the north bank of Port du Mort passage. This feature serves to show that the issue, as to which the lighthouses are called as evidence, involves a matter as to which there may be a wide range of evidence, so that *it cannot be disposed of by motion.*

Wisconsin's Uninterrupted Sovereignty is again alleged (brief, page 63).

What we said before as to this topic applies as well here, and the questions as to the methods of protecting the rights of villagers is not one to be disposed of on motion. As a matter of law, every person who has settled within the disputed territory has had legal notice, by the records, that Wisconsin's claimed boundary is conditional. We have not, however, by the complaint proposed any interference with private titles, and nothing is said as to the moneys Wisconsin has received from sales of Michigan's public lands, or has received from taxation of Michigan lands.

But all this simply emphasizes the fact that the issues here involved are of a nature not susceptible of proper trial by motion.

Defendant's Topic "Geological Surveys and Reports, Wisconsin" (brief, page 65).

There are quite extensive discussions and quotations as bearing on names of rivers, and other issues, but there is nothing under this topic that can, from its very nature, be conclusive on any essential allegation of the complaint, and this brief is already too long to further argue questions not possibly decisive of any issue under the motion.

Defendant's Topic "Elections show occupancy" (page 67).

Our cited decisions show that such "incidents of government," especially under the circumstance here so often repeated, cannot result in or effect a forfeiture by the state.

The same is true of all the instances cited under the topic,

"Acquiescence by Michigan in exercise of jurisdiction by Wisconsin" (brief, page 68).

Defendant's topic (page 75),

"In Dividing Michigan Land for Governmental Purposes the State Evidences Acquiescence."

This topic is clearly within the range of numerous instances referred to in plaintiff's authorities under the general topic of acquiescence, especially the case of *U. S. v. Texas*, where the U. S. attached a county in the disputed territory to a judicial circuit in Texas, yet that county, after 35 years of government by Texas, was decided to be in Oklahoma.

As to the individual instances cited, we say—That on

page 75, being an act of the Legislature to divide the upper Peninsula into six counties, has nothing in it that can possibly be construed as an acquiescence in any boundary other than that claimed by Michigan.

Sec. 6 referred to mentions "the boundary line between Michigan and Wisconsin" as a part of the boundary of Delta County. That is along the Menominee river, and the quoted part certainly applies at least equally well to Michigan's as to Wisconsin's claims.

As to the further comment (page 76) on the other counties, the fact that they only included what was then known to be in Michigan and was so surveyed, is no reason for saying that Michigan waived her right to other territory not included, especially under the circumstances which kept from Michigan a knowledge of those rights. The same applies to every item under that topic.

We believe that it is made clear by the argument and admitted by defendant's counsel that the complaint, upon its face states a cause of action.

We are confident that none of the records or documents cited by defendant *conclusively* contradict any essential allegation of the complaint. Therefore, the motion should be dismissed, unless the court can see some merit, which we are unable to discern, in defendant's last assertion (brief, page 86), that:

> *"The Grant to Michigan Does Not Antedate that to Wisconsin."*

In discussing this topic counsel refer back to the Ordinance of 1787, and deal quite extensively with various transactions since that time. While we feel strongly that there is no merit to their claim we believe we can, with comparative brevity, trace the title so as to show Michigan's priority of title.

It seems unnecessary to go into the history of the acquisition of title by the United States.

Congress, in 1787, adopted

> *"An Ordinance for the Government of the Territory of the United States, Northwest of the River Ohio."*

By Article 5 of that ordinance it is provided

> "There shall be formed in said Territory not less than three, nor more than five states; and the boundaries of the states * * * shall become fixed and established as follows, to-wit, * * *."

Following description of boundaries for each of three states the ordinance continued:

> "Provided, however, and it is further understood and declared, that the boundaries of these three states shall be subject so far to be altered that if Congress shall hereafter find it expedient, they shall have authority to form *one or two states* in that part of the said territory which lies north of an east and west line drawn through the southerly bend or extreme of Lake Michigan." (Italics are ours.)

Thus, with this clearly expressed power, Congress was privileged to form either *one* or *two* states *in* the territory north of the described line. Congress was not even required to place *all* the territory north of the said line, but could make two states out of it and leave the balance in the original three states. This seems to be the English of the ordinance, and it was the construction placed upon it by the Judiciary Committee and by Congress, at the time the Michigan-Ohio contest was decided ~~by~~ in favor of Ohio.

There is absolutely nothing in this ordinance on which to base the statement (brief, page 93):

"The old northwest ordinance having contemplated that the northern peninsula should form part of the State of Wisconsin, Wisconsin's right to the northern peninsula should no more be taken from Wisconsin without the consent of the people inhabiting the entire territory than could the strip given to Ohio in 1836 be taken from Michigan without consent."

This statement embodies two fatal weaknesses:

1. Neither Wisconsin nor the northern peninsula were mentioned in the Ordinance, and so the foundation is fatal.

2. The strip mentioned *was* taken from Michigan and given to Ohio.

With Congress having the authority mentioned, in 1805 Territorial government was granted to Michigan over a portion of the territory north of the line referred to, and later over that portion now in the State of Wisconsin.

Wisconsin first comes on to the Map in 1836, and then only as a territory. Previously to that she had no existence and could acquire no rights.

In 1836 Wisconsin was granted Territorial government a few weeks before Michigan was granted Statehood. It is *significant* in this connection that *their described boundaries were* exactly the same along the now disputed line. Even had there been a conflict we should claim, as in the Ohio case it was decided, that through Michigan's grant of Statehood she ~~acquiesced~~ vested rights in the territory described, while Wisconsin acquired no vested land rights through her grant of Territorial government.

However, a decision on this theory is not essential to the defeat of this motion, because, as said above, there was no conflict in the boundaries then. Wisconsin's Territorial

boundaries were exactly in accord with those of Michigan as then described and as now claimed.

It was not until 1846 that Wisconsin received, through her enabling act, the boundaries she now claims. Those boundaries were then expressly conditional and subject to Michigan's grant which was unconditional, and which antedated Wisconsin's by ten years.

We respectfully submit that the motion should be denied.

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In the Supreme Court of the United States

OCTOBER TERM, 1925

ORIGINAL NO. 19—IN EQUITY

STATE OF MICHIGAN,
Plaintiff,
vs.
STATE OF WISCONSIN,
Defendant.

BRIEF FOR THE STATE OF MICHIGAN

STATEMENT OF FACTS.

Plaintiff's Theory.

The Plaintiff, State of Michigan, was admitted by Act of Congress June 13, 1836, granting to Michigan jurisdiction over all the land within certain definite well defined boundaries.

The engineer entrusted with the survey of the petition in dispute, erroneously reported that it was an impossible line. The defendant, State of Wisconsin, was admitted with a boundary based upon this erroneous report and supposed to be as nearly as possible in accord with the Michigan Grant and conditioned on ratification by Michigan.

A Commission appointed by the State of Michigan, after exhaustive search, gathered complete information on the subject and disclosed the engineer's error and this action is brought to recover the land within that original grant.

1. HISTORICAL BACKGROUND.

A. The area before Congressional action.

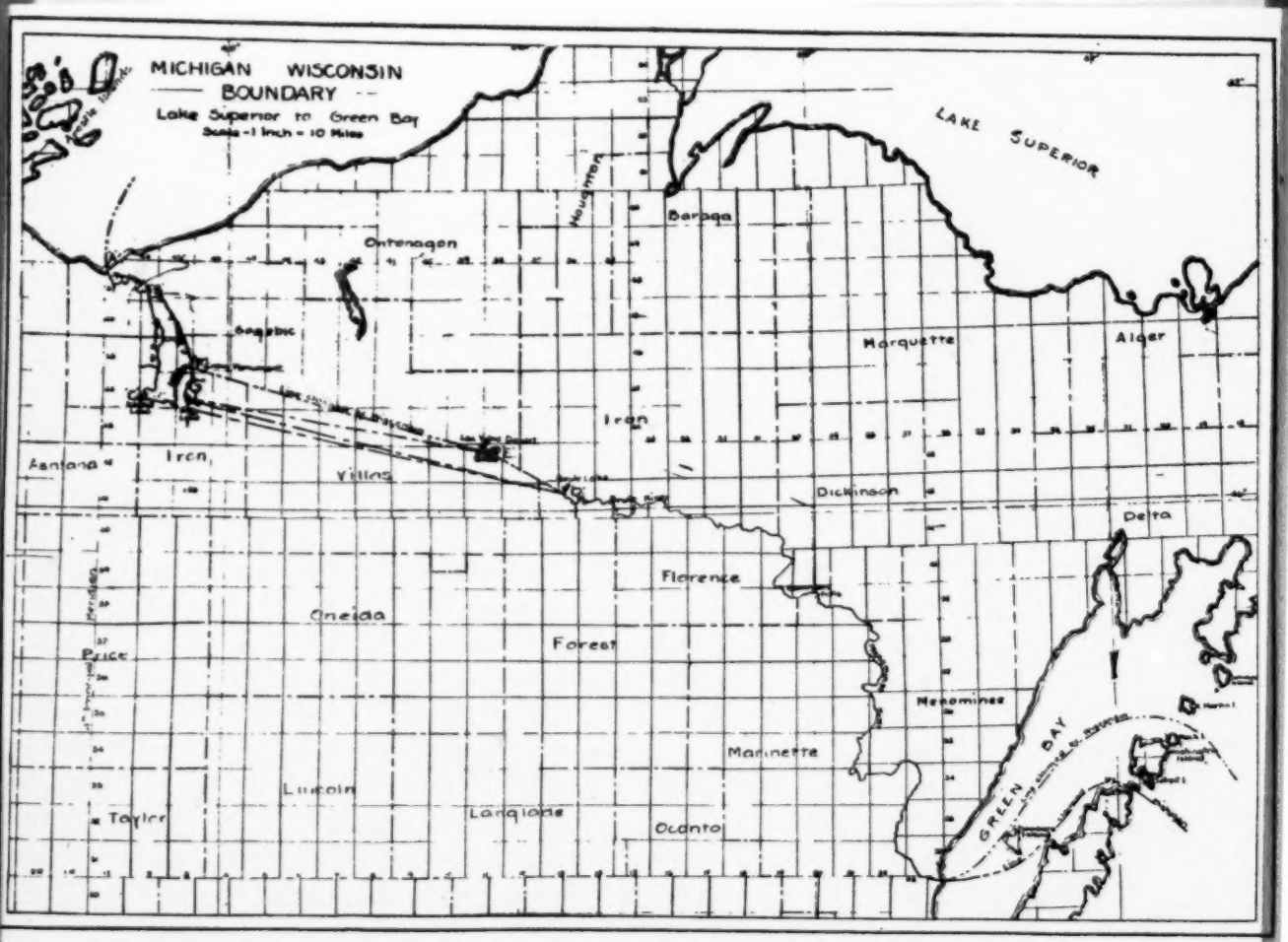
The boundary now in dispute is determined principally in relation to the following geographic features. It is a line between Lake Superior and Lake Michigan. Defined by the main channels of the Montreal River discharging into Lake Superior, and the Menominee River discharging into Green Bay, and the most usual ship channel of that Bay to Lake Michigan.

It is a natural boundary with the exception of the land line connecting the Montreal and Menominee Rivers.

Both these rivers rise in Lakes upon the High Plateau country now known as the "Land o' Lakes." This plateau was well wooded—studded with innumerable lakes draining variously into Lake Superior, Lake Michigan and the Mississippi. This "height of land" was the district in which the Sioux and Dakota had lived and cultivated small patches of land. The Sioux and Dakota were driven out by the Ojibway who had been driven westward by the Iroquois.—Testimony Jim Bell, page 457. On most of the early maps either one Lake or a group of Lakes is shown at this approximate location variously denominated L. Vieux Desert, or Lakes of the Desert, or Katikitegon.

Appendix "A".

Katikitegon is Ojibway for old planting grounds.
Vieux Desert is French for the same.
Test. of Fr. Gagnieur, page 84-85.
Exhibit 125.


MICHIGAN WISCONSIN
BOUNDARY
Lake Superior to Green Bay
Scale - 1 Inch = 10 Miles
LAKE SUPERIOR
Houghton
Baraga
Ontonagon
Gogebic
Marquette
Alger
Iron
Iron
Ashland
Vilas
Dickinson
Delta
Florence
Oneida
Forest
Price
Menominee
Marinette
GREEN BAY
Lincoln
Taylor
Langlade
Oconto

Prior to 1836 there were no white settlements nearer than Green Bay or Mackinac and the country was unknown except to the fur traders and explorers and very inaccurately mapped.

This area was a part of the Northwest territory organized by Congress in 1805.

It will be remembered that Virginia released her claims to this territory upon conditions that not to exceed five states would be formed therefrom, and not to exceed two, from the territory north of an east and west line drawn thru the southern extremity of Lake Michigan. This concerned the balance in Congress on the slavery question and indirectly affected the boundaries of the states later formed.

At this time Congress had before it the Mitchell map, Plaintiff's Exhibit 1, on which the southern extremity of Lake Michigan was given with a north latitude exceeding that of the international boundary in Lake Erie, in which respect the map was in error.

B. Sub-division by Congress.

Prior to 1836 Congress had subdivided the northwest territory by admitting three states, Ohio, Indiana and Illinois, formed, supposedly, from that portion of the Northwest territory South of the East and West line mentioned in the ordinance of 1805. The area North of this line being all included within the Territory of Michigan as early as 1818.

1. Territory of Michigan.

Organized in 1805, (U. S. St. at Large, Vol. 2, page 309) comprising that portion of the Northwest territory lying North of the East and West line above referred to, and East of a North and South line passing

thru the said southern extremity of Lake Michigan.

The balance of the Northwest Territory, North of the East and West line was added in 1818. (U. S. St. at Large, Vol. 3, page 431.)

In 1834 all territory west of the Mississippi and north of the State of Missouri was added to the territory of Michigan. (U. S. St. at Large, Vol. 4, p. 701.)

2. Territory of Wisconsin.

This territory was organized by Act of Congress April 20, 1836, comprising a portion of the territory of Michigan, the boundary on the north being described practically the same as in the Michigan Enabling Act, then under consideration, except in reverse order.

3. Admission of Michigan.

a. (Toledo War).

The admission of the State of Michigan came at the conclusion of a four year dispute with the State of Ohio, commonly known as the Toledo war. Conditions had reached such a stage that the President had sent representatives to the scene and ordered out troops to prevent disturbances, and the Governors of the respective states, Michigan and Ohio, had authorized military men to use the power of either state. There were some riots, but little or no bloodshed and Ohio won the contest in the Committees of Congress.

In 1834, a Mr. Preston, of South Carolina, at a Senate Committee meeting, suggested that Ohio be granted its claim and that in return for the loss of land to Michigan on the south, that it be given so much of the territory west of the lake as lay north and east of the Menominee and Montreal rivers. This is the

first reference to the boundary which is now in dispute, and it is the line which was finally agreed upon in the Committee after Michigan had sent its delegates to Congress and finally conceded the fight to Ohio for the purpose of gaining admission.

b. Bill of 1834.

In 1834 a bill was before Congress for the admission of Michigan which has no value in relation to the present dispute because in that Act the western boundary was defined the same as in the original Michigan Territorial Act, to-wit, a line drawn due north from the southern extremity of Lake Michigan.

c. Thomas Bill and Report 380.

In the 24th Congress, 1st Session, in 1836, the Thomas bill contained the first definition of the present boundary, the language being practically identical with the present Act. This bill was introduced in the House by Mr. Thomas and was known as H. R. 382 and was the subject of Report 380. It was a Bill to define the Northern Boundary of the State of Ohio and provide for the admission of Michigan on certain conditions, and made its appearance March 22nd. That report favors the passage of that bill compromising the question as suggested by Mr. Preston in 1834. The report also shows that the Committee had given consideration to the southern boundary and learned the unreliability of the Mitchell map, but it does not in any way indicate where the Committee obtained the information for defining the now disputed boundary, and attached thereto is the Burr map of March 2, 1836, of which we will speak later. The Thomas Bill, H. R. 382, reported by Judiciary Committee March 2nd, was

committed to the Committee of the Whole and a substitute was offered by Mr. Webster changing the boundary to accord with the bill of 1834, the substitute being read twice on March 2nd was committed to the Committee of the Whole also on April 15th, from which neither of the bills were ever reported.

d. The Michigan Enabling Act, S. 177.

S. 177 which finally became the Michigan Enabling Act, was introduced in the Senate March 22nd, by Mr. Benton from the Select Committee appointed to act upon that portion of the President's message to Congress which dealt with the necessity for action in relation to the Ohio and Michigan dispute. No Committee report was ever made in connection with this bill by the Senate Committee, although there is ample evidence that it was considered in the Committee. In letters of Lucius Lyon he repeatedly speaks of attending Senate Committee meetings and of the final agreement reached in Committee for the compromise. This at a joint meeting of the two select Committees of the Senate on the admission of Michigan and Arkansas, the Judiciary Committee of the Senate and the Judiciary and Territorial Committees of the House, the latter Committee being the one which received the map, Exhibit 6, March 11th, and Mr. Casey a member. This bill was debated on the floor of the Senate March 29th, 30th and 31st, and April 1st, and passed the Senate April 2nd.

On March 30th, a Mr. Ewing of Ohio, proposed an amendment in regard to that portion of the boundary now in dispute, which would have brought the boundary along the Huron and the Menominee rivers, the proposed amendment being unsuccessful

On April 4th, S 177 was received in the House after passing the Senate. It lay upon the table until April 14th when Mr. Thomas made an unsuccessful attempt to make it a special order.

The attempt was renewed by Mr. Storrer on April 20th and it was then read a first and second time, and a motion made to commit to Committee of the Whole. Upon this motion a dispute arose as to whether S 177 or S 7 had priority, (S 7 was another bill for the same purpose wherein the boundary was defined as in the Act of 1834) the Speaker declared S 177 under consideration, and an appeal from the Chair was taken. Upon a previous question being moved and debated the Session adjourned.

On April 27th, the appeal from the Chair and the motion to commit to Committee of the Whole were withdrawn. Mr. Thomas, the author of the Thomas bill, then made an unsuccessful attempt to advance the consideration of S 7, S 177 and S 178 the latter being a bill dealing with public lands in the proposed state.

On March 31st a Mr. McComas attempted to advance consideration of S 177.

On June 5th, S 7 was made a special order and,

On June 8th, S 7 was tabled, and S 177 and S 178 were committed to Committee of the Whole where they were considered on June 8th.

On Jun 9th, *Mr. Casey* was present in the House and made a motion in regard to matters then before the Committee on Public Lands, S 177 and S 178 were being considered by the House in Committee of the Whole which arose twice because of no quorum, and following a call of the House again resolved itself into a Committee of the Whole and reported S 177 and S

178 without amendment, Mr. Casey being present at the call of the House.

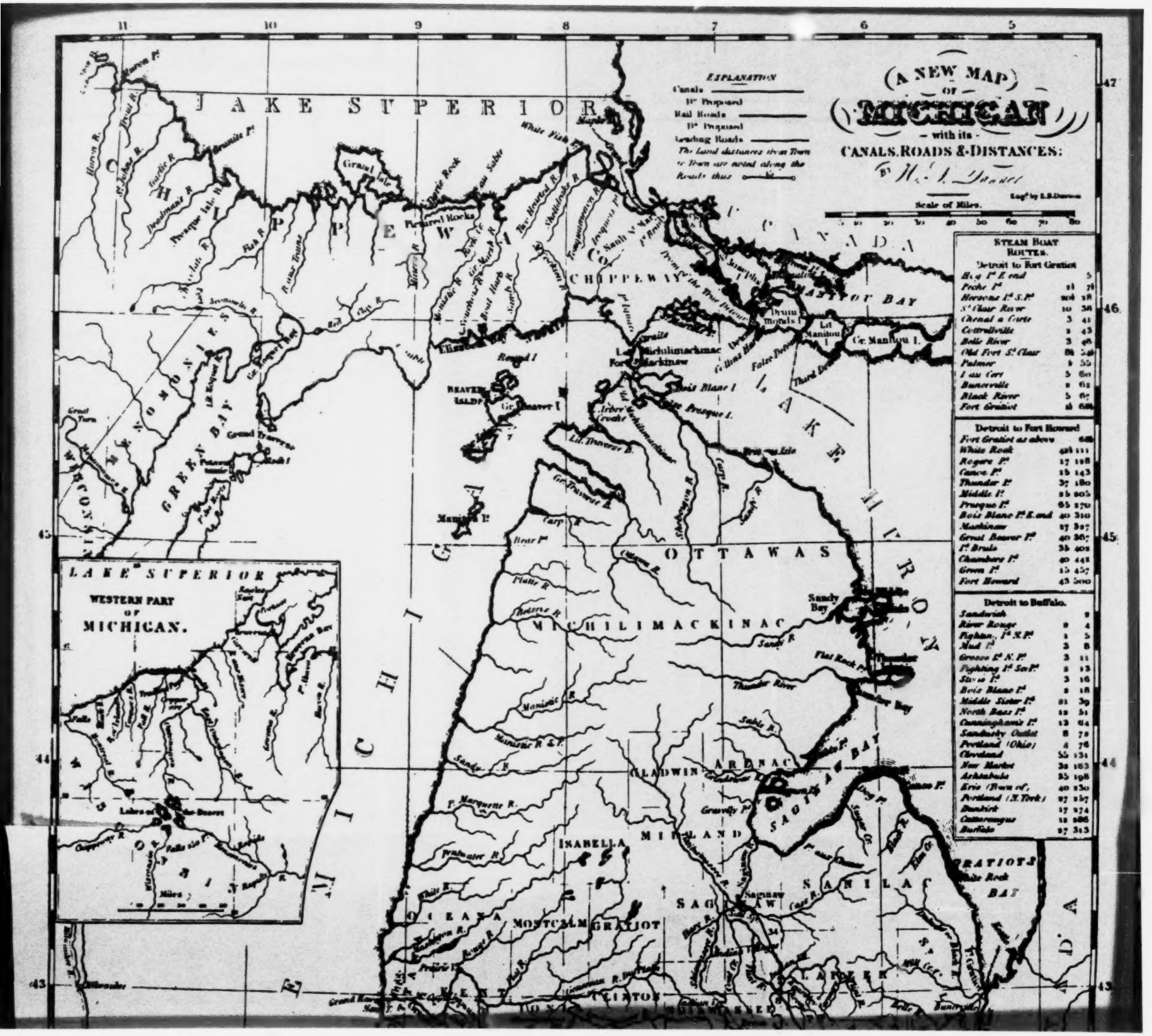
On June 13th, Mr. Vinton attempted to amend the bill to make the boundary unconditional, and on the same day John Quincy Adams moved to amend the bill to make the boundary conform with the original Michigan Territorial Act. A call of the House ensued and the bill was ordered to a third reading and after considerable debate, mostly on the subject of slavery, S 177 was passed by the House and later signed by the President became the Act under which Michigan became a state. The language of the act in relation to the disputed boundary is:

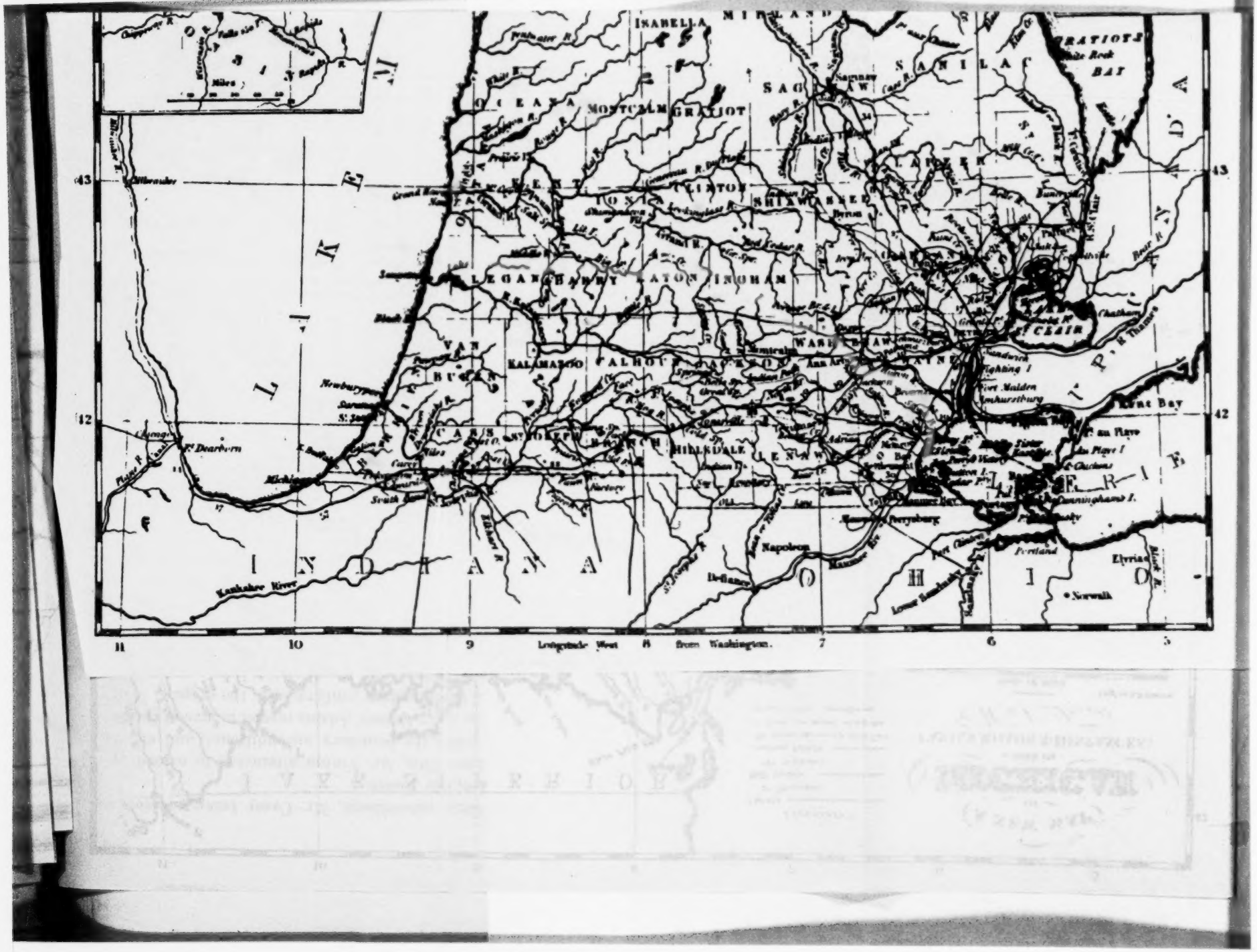
> "From the mouth of the Montreal river of Lake Superior; thence through the middle of the main channel of said river Montreal to the middle of the Lake of the Desert; thence in a direct line to the nearest headwater of the Menominee river; thence through the middle of that fork of said river first touched by said line, to the main channel of the said Menominee river; thence down the center of the main channel of the same, to the center of the most usual ship channel of Green Bay of Lake Michigan; thence through the center of the most usual ship channel of Green Bay to the center of Lake Michiaan."

C. Congressional knowledge and maps of the hour.

1. Schoolcraft.

During the spring of 1836 Henry Schoolcraft—Indian agent at Mackinac—a man who was familiar with the district thru which this line passed, was called to Washington to impart to the Senate Committee considering the Michigan Enabling Act his knowledge in regard to that region.


(A NEW MAP)
OF
MICHIGAN
with its
CANALS, ROADS & DISTANCES:
By H. S. Tanner
Engr'd by S.B. Doreus
Scale of Miles.
EXPLANATION
Canals
Rail Roads
Leading Roads
The Land distances from Town to Town are noted along the Roads thus
STEAM BOAT ROUTES.
Detroit to Fort Gratiot
Detroit to Fort Howard
Detroit to Buffalo.
LAKE SUPERIOR
WESTERN PART OF MICHIGAN.
JAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
CANADA
CHIPPEWAY
OTTAWAS
MICHILIMACKINAC
MIDLAND
ISABELLA
SAGINAW
MONTCALM
GRATIOT
SANILAC
GLADWIN
ARENAC
GREEN BAY
SAGINAW BAY
THUNDER BAY
MATTOT BAY
Mackinaw
Detroit
Sandy Bay
Flat Rock P.
Thunder River
Saginaw R.
Tittabawassee R.
Cass R.
Flint R.
Shiawassee R.
Grand River
Grand Traverse
Manistee R.
Muskegon R.
Pere Marquette R.
Pine River
Au Sable R.
Thunder Bay
Saginaw
Flint
Lapeer
Pontiac
Ann Arbor
Monroe
Toledo
Sandusky
Cleveland
Buffalo
Miles


ISABELLA
MIDLAND
SAGINAW
BAY
MONTCALM
GRATIOT
CLINTON
SHIAWASSEE
GENESEE
LAPEER
ST CLAIR
KALAMAZOO
CALHOUN
JACKSON
WAYNE
VAN BUREN
BRANCH
HILLSDALE
LENAWEE
MONROE
Fort Dearborn
Fort Malden
Amherstburg
Sandwich
Fighting I
Grand River
Maumee Bay
Fort au Playe
Fort Playe I
Cunningham I.
Put in Bay
Perrysburg
Portland
Napoleon
Defiance
Elyria
Norwalk
Kankakee River
Michigan
L A K E
I N D I A N A
O H I O
M I C H I G A N
Longitude West 8 from Washington.
11
10
9
7
6
5
43
42
12

Pictg. Ex. 179

MAP

of the

of the
Northern parts
of
OHIO, INDIANA
and
ILLINOIS
with
Michigan
and that part of
the
OUISCONSIN TERRITORY
Lying east of the
MISSISSIPPI RIVER

Pl. 4, 179

Dubuque
Galena
Buffalo Grove
Ottawa
Peoria
Chicago
Michigan City
St Joseph
La Porte
Toledo
Perrysburg
Huntington
Delphis
La Fayette
Logansport
Grandville
Allegan
Bronson
Mineral point
Rock R
Illinois R
Mississippi R
Wabash R
Kankakee R
Indiana
Ohio

BLUEPRINT

TOO

LARGE

FOR

FILMING

MAPS

TOO

LARGE

FOR

FILMING

Plaintiff's Exhibits 40, 41, 42.

He was evidently attendant upon the Senate Committee February 19th, (see Exhibit 40) which also indicates he was speaking of Lake Vieux Desert as at the head of the Montreal.

2. The Mitchell Map (P's Ex. 1)

Report 380—24th Cong. 1st Session, dated March 2, 1836, develops the inaccuracy of this map and the danger of relying on an inaccurate map in defining state boundaries.

3. Burr's map of March 2, 1836 (P's Ex. 179)

Is a map drawn by David Burr, draughtsman of the House of Representatives. It is a copy of a map attached to Report 380 referred to in the last paragraph and is herewith reproduced. (Opposite page).

It will be noted that the map depicts rivers corresponding to the Menominee and Montreal without naming them and a group of Lakes corresponding to the Group elsewhere described as Lakes of the Desert, also without naming any of the Lakes.

Plaintiff's Exhibit 9 is another map by the same author, but evidently drawn for public use.

The geographical situation is the same, but the legend "Lac Du Vieux Desert" is printed across the group of Lakes. The language is singular, but evidently applies to the whole group.

4. Burr's map of March 11, 1836 (Plaintiff's Exhibits 6 and 7)

Are copies of a map (reproduced on opposite page) which was transmitted by the Commissioner of the General Land Office to the Committee on

Territories March 11, 1836. It bears the Legend drawn to accompany the report of the Hon. Z. Casey.

(Test. Col. Martin, page 664.)

It will be noted that a change is made, in that the Montreal is now shown as rising in a lake a considerable distance to the Northwest of the central Lake of the group which had been shown as the headwaters on the former map. On this map the Montreal and Menominee rivers are named.

Also on this map appears the legend "Les Lac Vieux Desert" the "Les" being directly under the detached lake at the head of the Montreal.

This legend is in the plural.

(Test. Fr. Gagnieur, page 86.)

Exhibit 6 is the copy of this map which was found among the old papers of Lucius Lyon.

See stipulation on Plaintiff's Exhibits, pages 35a, 36, 37, 38.

This copy bears a blue pencil line up the length of the Montreal to the Lake at its head, overland to the Lake at the head of the Menominee and down the Menominee.

Plaintiff's Exhibit 7 is a photographic copy of a copy of this map found on file in the Library of Congress and the Land line between the Lakes at the head of the Montreal and the head of the Menominee is inked in a dotted line.

Plaintiff's Exhibit 8, a map by Tanner, copyrighted August 1836, (Testimony Col. Martin R 662) duplicates the conditions shown on Exhibits 6 and 7 except that the legend reads "Lakes of the Desert" instead of "Les Lac Vieux Desert."

5. Plaintiff's Exhibit 59, a map by J. Calvin Smith of New York, Merch. Exchange, dated 1840,

Duplicates the geography shown on Exhibits 6. 7, 8. but names the detached Lake at the head of the Montreal, "Lake of the Desert" in place of the legend carried on the other exhibits.

6. Plaintiff's Exhibit 175, the Judson Map,

Is a copy of the Map No. 1, attached to Cram's 1st report being Exhibit B of the Bill of Complaint, a map published by authority of the Wisconsin Legislative Assembly in 1838. It will be noted that this map depicts a continuous water boundary—it is here produced.

D. Cram's Error.

1. Causes.

The survey of the line described in the Michigan Enabling Act, S 177, was entrusted to a Captain of the Bureau of Topographical Engineers of the War Department, Thomas Jefferson Cram, of Racine, Wisconsin, in July 1840.

He was instructed to survey only the land line between the headwaters of the Montreal and the Menominee and the line thru Green Bay. In regard to the land line the following language was used in the letter of instructions:

> "The line from the head of Montreal river to the head of the Menominee, must also, of necessity, be surveyed, as it is an undetermined line, without distinct physical characteristics. This line, it is said, must pass through Desert Lake. Recent information induces the belief that there are several lakes, between the headwaters of these two rivers, called: Lakes of the Desert. They are

so delineated and named on some maps of that locality which I have examined. The survey will, however, give correct information on this subject."

Plaintiff's Exhibit 14.

Plaintiff's Exhibit 14.

It does not appear that Cram was furnished with any of the maps used by Congress.

His report, Plaintiff's Exhibit 15, shows he did have a copy of the Judson map of 1838, Plaintiff's Exhibit 175—Exhibit B of the Bill of Complaint.

Cram ascended the Menominee, surveyed a line to the largest lake in the vicinity and was forced to leave the country by inclement weather.

He was informed by Indians that there was no lake at the head of the Montreal, but that it took its rise in a swamp, and was eight days' travel by an Indian without a pack from the Large Lake. Plaintiff's Exhibit 15.)

2. Results.

On his return he made a report, Plaintiff's Exhibit 15, concluding that the large lake which he called Lake Vieux Desert was the Lake designated by Congress as a point in the boundary, and that in as much as this lake was not connected with the Montreal, the line as defined was an impossible line.

He attached a copy of the Judson map to his report, pointed out its inaccuracy, and concluded that Congress had been misled by a similar map. (P. 4, Plaintiff's Exhibit 15.)

He also attached what he called a corrected map showing the Montreal rising in a swamp far to the northwest.

Following Cram's report the condition was reported to Governor Woodbridge of Michigan by Douglas Houghton, (Plaintiff's Exhibit 16) State Geologist of Michigan, and resolutions passed requesting Congress to further define the line and authorizing the Governor to appoint a Commissioner to act in conjunction with a Commissioner to be appointed by Congress.

Plaintiff's Exhibits 17, 18, 19.

Douglas Houghton was appointed for Michigan, but no one for Congress or Wisconsin.

The memorial produced a further appropriation (Plaintiff's Exhibit 21) and Cram returned to the scene in 1841 under instructions to map the entire country surrounding the proposed line, and return the map to Congress.

Cram sent Lt. Webster to continue the survey of the land line from Lake Vieux Desert westward. He met Douglas Houghton at the mouth of the Montreal and the two remained in camp several days taking astronomical observations. Cram then proceeded up the old portage trail and Houghton up the river by canoe. They met again at or near Cram's monument and there remained in camp several days taking further astronomical observations and being there joined the second day by Lt. Webster.

Houghton was engaged upon the Geological survey of Michigan. Cram returned and filed his 2nd report, (Plaintiff's Exhibit 23), with maps of the Menominee and Brule, and of the Montreal. On the latter the West Branch of the Montreal is very inaccurately portrayed as dividing into Middle River and Hemlock Creek (Plaintiff's Exhibit 112). Douglas Houghton drew a

sketch of the same (Defendant's Exhibit 103). The manuscript and sketch indicate that Houghton relied upon Captain Cram for his information.

Houghton had sketched the lower reaches of the Montreal on a previous trip 1840, (Defendant's Exhibit 102). In the previous sketch he had evidently proceeded up the Portage Trail to the second Barrier and noted a small streak crossing the Trail three times. In the new sketch he indicates what must be the west branch as dividing and crossing the Trail north of the Barrier and not crossing the Barrier.

Cram had discovered Pine Lake at the head of the East Branch and caused an offset line to be run from the main line to accurately determine the position of its center, and he set a stake at the point where the main line of survey reached the East Branch, and called it Astronomical Station No. 2, and said in his report it might be taken as the headwaters of the Montreal. (P. 3 Plaintiff's Exhibit 23.)

He commented that it was unfortunate that Lac Vieux Desert must be taken as a point in the boundary as it made a crooked line, and continued his erroneous conclusion that the line described in the Michigan Enabling Act was an impossible line. (P. 4 Plaintff's Exhibit 23.)

Captain Cram further recommended that the Islands in the Menominee and Brule be divided all above Quinnesec Falls to go to Michigan, and all below to Wisconsin. There are no important islands above the division point. (Plaintiff's Exhibit 170.)

He also discusses the "Most usual ship channel" of Green Bay, but took no action in regard to it except to later expend money appropriated for surveying the

boundary in a survey of Door County, Wisconsin, and the islands in dispute in this case (Plaintiff's Exhibit 94). This survey included soundings of the Strawberry passage and Port des Morte passage, but not of Rock Island passage or the Western passage in Green Bay. (Plaintiff's Exhibit 97.)

Douglas Houghton reported to Gov. Woodbridge of Michigan the information he had obtained from Captain Cram, concluding the line was an impossible one. (Plaintiff's Exhibit 47.)

Several bills introduced in Congress to redefine the boundary according to the recommendations of Captain Cram failed of passage. (Plaintiff's Exhibits 27 to 33 inclusive.)

E. Admission of Wisconsin

1. Enabling Act

The State of Wisconsin was admitted by Enabling Act (U. S. Stat. at Large, Vol. 9, page 7) August 6, 1846. The boundaries of the proposed state to the extent of the portion now in dispute were defined as follows:

> "Beginning at the northeast corner of the State of Illinois, that is to say at a point in the center of Lake Michigan, where the line of 40 30′ of north latitude crosses the same; thence running with the boundary line of the State of Michigan through Lake Michigan, Green Bay, to the mouth of the Menominee river; thence up the main channel of said river to the Brule River; thence up the last mentioned river to Lake Brule; thence along the south shore of Lake Brule in a direct line to the center of the channel between Middle and South Islands, in the Lake of the Desert; thence in a direct line to the headwaters of the Montreal

River; as marked upon the survey made by Captain Cram; thence down the main channel of the Montreal River to the middle of Lake Superior."

"To prevent all disputes in reference to the jurisdiction of the islands in said Brule and Menominee rivers, the line be so run as to include within the jurisdiction of Michigan, all the islands in the Brule and Menominee Rivers (to the extent to which said rivers are adopted as a boundary) down to and inclusive of the Quinnesec Falls of the Menominee, and from thence the line shall be so run as to include within the jurisdiction of Wisconsin all the islands in the Menominee river from the Falls aforesaid, down to the junction of said river with Green Bay;"

"That the adjustment of boundary as fixed by this Act between Wisconsin and Michigan, shall not be binding on Congress unless the same shall be ratified by the State of Michigan on or before the first day of June 1848."

No action of the State of Michigan ever ratified any adjustment of boundary, either before or after June 1, 1848, although Wisconsin had accepted admission as a State under the conditions named prior to the expiration of the date for ratification. (Plaintiff's Exhibit 37.)

2. Burt's Survey

William D. Burt was entrusted with the survey of the line under this act, (Plaintiff's Exhibits 35 and 36) and relocated the line from the head of the Brule to Cram's monument on the East Branch of the Montreal, in 1847.

Linear surveys then proceeded under Burt's supervision. (Defendant's Exhibit 198.)

3. Taxation

The first date of entry or taxation of any of the disputed area by Wisconsin was soon after her admission, but taxation and control of some description began as late as 1909, (Defendant's Exhibit 336) and Wisconsin is not today exercising jurisdiction over some of the islands in the Menominee in dispute, nor over some descriptions on the islands in Green Bay.

The district was first occupied by lumbermen and had little other development along the boundary until recent years.

The first intimation that any portion of territory granted to Michigan was being claimed by Wisconsin came when Merryman's Island originally surveyed in Michigan, was surveyed in Wisconsin on special application in 1854. The survey in Wisconsin was cancelled by order of the Commissioner of the General Land Office in 1862, and Wisconsin's efforts to tax ceased. (Defendant's Exhibit 198, sheet 28.)

This island is on the Michigan side of the main channel in the Menominee River below Quinnesec Falls.

4. Discovery of Error as to Montreal

The next news came from one George Cannon, who, in 1907, wrote to the Hon. Peter White of Marquette, Michigan, telling him that he considered the West branch of the Montreal the main channel and thought Cram had made an error in this regard. He suggested that it be properly determined whether the headwaters of the Montreal were in Island Lake where nature put them, or at the junction of a small creek with the East Branch where Captain Cram put them. (Plaintiff's Exhibit 61 to 67 inclusive.)

Later in 1907, Peter White was appointed by authority of the Michigan Legislature as a representative of the State, ambassador to Wisconsin, but no action resulted. (Plaintiff's Exhibit 72.)

In 1909, the Michigan Legislature instructed the Attorney General, now Judge Bird, of the Michigan Supreme Court, to investigate and bring action if he deemed it advisable.

Attorney General Bird employed one Prof. J. B. Davis, of the University of Michigan, to assist him.

Davis made some investigation which he reported to Attorney General Bird, (Defendant's Exhibit 380), but did not learn of the Cram error or the situation on the Menominee or in Green Bay. This was in the nature of a private report by an employee of the Attorney General and its introduction in evidence has been objected to. (P. 1012.)

5. Michigan Constitution of 1909

The same year a new constitution was adopted by the State of Michigan, and the article on boundaries was amended to claim all rights of which any knowledge was then had, to-wit:

> "*Section 1.* The State of Michigan consists of and has jurisdiction over the territory embraced within the following boundaries, to-wit:" * * * thence through the middle of the main channel of the westerly branch of the Montreal river to Island Lake, the headwaters thereof, thence in a direct line to the center of the channel between Middle and South Islands in the Lake of the Desert; thence in a direct line to the southern shore of Lake Brule; thence along said southern shore and down the River Brule to the main channel of the Menominee River; thence down the center of the main channel of the same to the center of the

> most usual ship channel of the Green Bay of Lake Michigan; thence through the center of the most usual ship channel of the said bay to the middle of Lake Michigan; * * *"

Attorney General Bird passed out of Office in 1910, without making the report required of him by the Senate on this subject. See stipulation (R. 1012.)

Hon. Peter White died. See stipulation. P. 39.

In 1919 the Michigan Legislature provided for the appointment of a Commission to investigate the question and funds for the expense thereof. (Plaintiff's Exhibit 106.)

Hon. Sigurd Nelson of Ironwood,

Hon. Michael H. Moriarty of Crystal Falls,

Hon. Alvah L. Sawyer of Menominee,

were appointed.

This commission met and organized in 1920. See stipulation.

Investigations and surveys were carried on.

The commission made a report to the 1921 Session and received a further appropriation. (Plaintiff's Exhibit 106.)

Hon. Sigurd Nelson died.

Hon. Michael H. Moriarty died.

The Secretary then reported his conclusions to the Governor and Attorney General, and this action was commenced.

Those conclusions were formed from the evidence now in the record in this case.

II. The Montreal-Vieux Desert Sector.

A. What is the main channel of the river Montreal?

The history of the enactment of the boundary legislation makes apparent the Corngessional intent that

the boundary should pass directly up the main channel of the Montreal to the center of the Lake at its head. The boundary Commission sought to learn which branch of the Montreal was the main channel in 1836 and the line as Congress defined it.

1. Report of Michigan Engineers to Boundary Commission

The engineers employed reported in substance, (Plaintiff's Exhibit 170)

Drainage area of West Branch 96.6 sq. miles
East Branch 112.28 sq. miles

That the above included the watershed of Spring Creek (17 square miles, Chas. Halbert, Record P. 865) which affects the flow of the east branch only for a mile or so above the confluence.

That the West Branch receives a considerably larger flow from Island Lake than the East Branch receives from Pine Lake.

That over their entire length except the last mile or so the West Branch carries the flow from a larger drainage area.

(Testimony of Rupp, Record, P. 165-7)

These figures were later substantiated by defendant's witnesses (Mr. Halbert, Record P. 865-6)

2. Volume

The report of Michigan Engineers, (Plaintiff's Exhibit 170) recites the taking of float measurements for the purpose of determining the relative discharge of the two branches, which measurements, the report says, were substantiated by the figures given in the report of the Wisconsin Railroad Commission, (Plaintiff's Exhibit 108). The engineers conclude that the

West Branch is the larger stream, 20 to 25% larger volume (Testimony T. R. Hasley, Record P. 250)

Elaborate proofs were offered by defendant as the result of stream gauging activities.

Figures are available over a few months at stations established at the confluence by defendant since the commencement of this suit.

The measurements taken by Wisconsin Railroad Commission in connection with a Federal department at Gile and Ironwood, began in 1917 and continued to date with some interruptions.

An examination of Plaintiff's Exhibits 173 will disclose that the Giles Station on the West Branch and the Ironwood Station on the East Branch, are practically a corresponding distance upstream from the confluence.

The proofs (Plaintiff's Exhibit 108) (Defendants Exhibits 343, 343a, 343b, 343c, 343d, 343e, 344 and 345) disclose for the period 1917 to 1925, the West Branch at Gile produced

a mean discharge of	67.2 cu. ft. per sec.
a peak discharge of	1480. cu. ft. per sec.
a minimum discharge of	2.4 cu. ft. per sec.

The figures available for the Station at Ironwood on the East Branch over the same period (Plaintiff's Exhibit 108) Defendant's Exhibits 342, 342a, 342b, 342c, 342d, 346 and 347) disclose

a mean discharge of	49.1 cu. ft. per sec.
a peak discharge of	910. cu. ft. per sec.
a minimum discharge of	2.3 cu. ft. per sec.

The testimony of the Michigan engineers was based upon these figures except as they may have been

slightly altered by the measurements taken after their report (the 1924-25 figures)

The stations at the confluence disclose a ratio of discharge at those stations over the entire period

West Branch 100%

East Branch 105%

(Testimony of Mr. Macy, Record P. 982) which difference Mr. Macy says might well be within the possible error in measurement.

These measurements were taken at comparatively low stages.

Mr. Macy (Record P. 983) testified that eliminating the month of July 1925, (low Stage) the ratio was

West Branch, 100%

East Branch 100.7%

That one additional week of peak discharge, such as is shown at the inception of each years data, would reverse the ratio.

It will be noted on the Hydrograph (Defendant's Exhibit 357a) the peak for the West Branch is 277, East Branch 328. Defendant's witness, Chas. Halbert, testified (Record P. 961) that the West Branch came in flood and receded quicker than the East Branch.

Plaintiff's engineers submitted a diagram of the confluence, (Plaintiff's Exhibit 171) Defendant's engineers submitted two diagrams (Defendant's Exhibit 120-120a) and a number of photos (Defendant's Exhibits 122, 122a, 123, 123a, 124 and 124a)

From these it appears the East Branch turns back from the general course of drainage and joins the West Branch against the grain of the country.

3. Pumpage.

It further appears from the testimony, (Record P. 978)

That an average pumpage from mines and wells is as follows:

Into West Branch	1.6 cu. ft. per sec.
Into East Branch	4.7. cu. ft. per sec.

Position and use.

(Plaintiff's Exhibit 170) The report of Michigan Engineers discloses that the West Branch was used for log driving and would be navigable for canoes, the East Branch would not except in flood stages.

4. Local Tradition.

The Indians had different names for each, the East Branch "Shin-gwa-Ko-sibi" (Record P. 451), the West Branch, "Go-ge-gasugun" and from the confluence to the lake, "Ga-wa-si-wa-no-si-bi."

The name Montreal means white water and was applied by the French at the lower reaches.

On the maps used by Congress (Exhibits 6 or 7) it is applied to a River with Branches from both directions heading in a lake.

This is very similar to the condition shown on the Farmer map of 1829 (Defendant's Exhibit 131) on which appears the legend "rapid but is ascended in canoes." This map was shown to be in the possession of Lucius Lyon, (Plaintiff's Exhibit 49).

The first application of the name Montreal to the East Branch is upon Cram's map.

After that the village of "Montreal" was organized on the West Branch (Record P. 964).

The "Montreal River Logging Company" was organized to operate on the West Branch, (Record P. 943).

The School District of Hurley named its school on the West Branch, the "Montreal" school. (Record P.

Congress defined the center of the Lake of the Desert

as a necessary point in the boundary, so that a straight line projected from that point to the nearest headwaters of the Menominee would then fix two certain and definite points. The rest of the boundary was defined by monuments placed by nature.

Congress knew the Montreal river headed in a lake; that it was one of a group of lakes described on maps in its possession as Lakes of the Desert or Les Lac Vieux Desert. The only reasonable construction of the intent of Congress—from the language used—is that either Island Lake or Pine Lake must be the lake. If the main channel of the Montreal is found to be the West Branch, then Island Lake is the lake Congress intended. If the East Branch is held to be the main channel then Pine Lake is the point intended by Congress as a definite point in the boundary. One or the other must be found—if the intention of Congress is given effect.

III. The Menominee Brule Sector.

The Michigan grant is to the center of the Main Channel.

The Wisconsin Grant the same, except for the proviso conditional upon ratification by Michigan that the line (along the center of the main channel) be so run as to include within the jurisdiction of Michigan all islands above Quinnesec Falls and those below within Wisconsin.

No ratification occurred.

The islands are today only partially surveyed (Plaintiff's Exhibit 172), (Defendant's Exhibits 197-198) and many of those surveyed have never been taxed. No plan has been followed and the location of

the boundary is in doubt most of the way (Testimony of Chas. Hulbert (Record 845.)

A detailed statement of the situation in regard to the islands working downstream follows: Only such islands as are involved in this suit are mentioned with the exception of three which are referred to for their bearing on the matter. The islands of which neither party has taken actual possession are included as in dispute, in fact all islands on the Michigan side below Quinnesec Falls.

The report of Michigan engineers in relation to (Plaintiff's Exhibit 172) islands in the Brule is to the effect that they are all small rocky islets, of no value for agriculture or timber. That the main channel of the river Brule is in all cases well defined and should it be settled upon as the boundary, would make all questions of jurisdiction as simple as any marking of a line could, since this river flows almost its entire length through rock or rocky formations.

Island No. 1. An island in the Brule occupied by the Peninsula Power Company and forming part of their Hydro-Electric development.

The testimony of Chas. Halbert, (Record 859-860), engineer for Wisconsin Railroad Commission, is to the effect that this island is on the Michigan side of the main channel.

Except for Island No. 1, there are no islands of consequence above Quinnesec Falls of the Menominee and none which are surveyed or occupied, and down to this Point and below it to Grand Island in the Menominee, the main channel is well defined and its acceptance as a boundary would satisfy all needs. There are innumerable islands varying in size from a rock the size of a hen coop to one-half or three-fourths acres. To

place all these islands in Michigan would in most instances give plaintiff practical control of this river, since there are islands which most of the year are practically a part of Wisconsin shore, but would not in any degree compensate for the loss to Michigan of the islands her side of the main channel below Quinnesec Falls. In this respect Captain Cram's recommendation and the adjustment offered in Wisconsin's Enabling Act were unquestionably greatly in Wisconsin's favor.

Island No. 2. Grand Island, an island in the Menominee below Quinnnesec Falls, a large island which conditions indicate is formed from two or three islands.

Surveyed as a part of Sec. 19, Town 38 N. Range 28 West, Michigan. Not surveyed in the original plats of Wisconsin (Sheet 22 Defendant's Exhibit 197)
(Sheet 24 Defendant's Exhibit 198)

There is no evidence of survey by Wisconsin, however taxation by Wisconsin is shown on Exhibit 336.

Unoccupied and uncultivated.

The Plaintiff here consents, in the event of a decree being entered in this case, to any necessary provision to cancel the survey of this island in Michigan, and to define the boundary as the thread or center of the main channel.

Island No. 3. An island in the Menominee below Quinnesec Falls.

Position—Opposite Lot 2, Sec. 31, Twp. 37 R. 28, Michigan, on the Michigan side of the main channel.

Condition—Unoccupied and unsurveyed.

Sketched on plats of original Michigan survey.

Not sketched on plats of original Wisconsin survey.

Island No. 4. An island in the Menominee below Quinnesec Falls.

Position—Opposite Lot 3, Sec. 31, T. 37, R. 28, Mich. and Lot 2, Sec. 8, T. 36, R. 22. Wis.

Condition—Unoccupied and uncultivated.

Sketched on plats of original survey in Michigan.

Surveyed as parts of Secs. 19-36-22, and 24-36-21 in Wisconsin.

That is to say an island is so surveyed which is not in existence, unless this be the island and the survey in those sections a mistake.

Defendant's Exhibit 336 shows that these descriptions in Wisconsin have reverted to the State for taxes or are still in the Government.

Island No. 5. Chippewa-Holmes-Miscauno a large island in the Menominee below Quinnesec Falls, first named by Cram, second by loggers, third as a summer resort.

The channel between this island and the Michigan bank is broken by two small islands in the approximate position of the one shown on Cram's survey.

Position—Opposite Lot 2, Sec. 36, T. 37 N. R. 29 W. Mich.

On Michigan side of main channel.

Condition—First occupies as terminus of logging Railroad, from Michigan side the logs being carried onto the island by rail and dumped into the main channel between island and Wisconsin bank. Now occupied by Four Seasons Club of Chicago.

Sketched on Cram's map and named Chippewa 1.

Sketched on original Michigan plats.

Surveyed on Wisconsin plats, 1858, as Lots in Secs. 23-24-26 and 27 T. 36, R. 21.

The description on the main island were entered in 1894, on the small islands have never been entered.

Taxation of large islands commenced 1895, by Wisconsin Exhibit 366, this island was first occupied in early logging days and continually since.

In the plats the width of the channel between the island and Wisconsin bank is given as 3 chains, 12 links, and of the channel between the island and the Michigan bank at its extreme width just below the island dividing this channel, as 2 chains, 25 links.

Island No. 6. An island in Menominee, below Quinnesec Falls, 1st below Miscauno.

Position—Opposite Sec. 6-36-28 Mich. on Michigan side of Main Channel.

Condition—On plat of Michigan survey as above.

Not on plat of Wisconsin survey.

Unoccupied.

Island No. 7. Waite's Island, in the Menominee, below Quinnesec Falls.

Position—Opposite Secs. 17 and 18, T. 36, R. 28 Mich.

On Mich. side of Main Channel.

See photo No. 7, Plaintiff's Exhibit 172.

Condition—Sketched in Michigan Plats.

Surveyed in Wisconsin as parts of Secs. 6 and 27, T. 35, R. 22.

Owned and occupied by W. F. Waite of Mesominee, Michigan.

Defendant's Exhibit 366, indicates entries beginning 1878 and last entry 1901. Taxation beginning 1879 and final description appearing on tax roll for first time in 1906.

Island No. 8. Merryman's Island in Menominee, below Quinnesec Falls.

Position—On Michigan side of Main Channel.

Condition—Surveyed in both states, but Wisconsin survey cancelled.

Owned and occupied by White Rapids Power Company.

A comparison of the original survey plats at this point shows the Michigan survey accurate, and the Wisconsin survey greatly exaggerated, the channel between this island and the Michigan bank, including two islands in that channel in the survey which clearly never existed. (Sheet 28 of Defendant's Exhibit 198 is the Wisconsin survey), (Sheet 25 of Defendant's Exhibit 197 is the Michigan survey).

This island is now under the jurisdiction of Michigan—the Wisconsin claims having been stifled by the action of a Government Department in cancelling the survey. It is, however, within the Wisconsin conditional grant and defendant claims it in its answer.

Island No. 9. Sixty Island Group, in the Menominee, below Quinnesec Falls.

Position—Twp. 33, R. 28, Michigan.

Twp. 35 R. 21, Wisconsin.

Sketch by Michigan engineers, Plaintiff's Exhibit 172.

Condition—Unoccupied except one or two islands on Wisconsin side of Main Channel used as meadows by Indians living on Wisconsin Bank.

Not meandered in Michigan Plat.

Surveyed in Wisconsin Plat and a comparison of that plat, Sheet 29, of Defendant's Exhibit 198, with the Michigan Engineers' sketch follows:

Island 1 and 5 of sketch were formerly one and surveyed as Lot 13 on the plat.

Island 6 of sketch is Lot 10 of plat.

Islands 11 and 12 were one—Lot 7 of the plat.
Islands 7 and 10 were not surveyed.
Island 8 was Lot 9.
Islands 9 and 13 were one—Lot 8.
Island 15 was Lot 4.
Island 17 was Lot 3.
Islands 14 and 16 were not surveyed.

There has been little or no change in the position or size of this group.

The engineers report Islands 1-2-5-6-7-8-9-10-11-12-13-16 on the Michigan side of the Main channel;

1-5-6-8-9-13-11-12 were surveyed in Wisconsin, as lots; 13-10-9-8-7 of Sec. 35 and 36, T. 31, R. 21, Wisconsin.

Exhibit 366 indicates no entries or taxation of these lots.

Island No. 10.

Position—In Menominee River, below Quinnesec Falls, Opp. SW SW 14-35-29 Mich. on Michigan side of channel.

Condition—Unoccupied—uncultivated.

Shown on Michigan plats.

Survey on Wisconsin plats, Lot 4-15-34-21.

Entry made in 1884, no record until 1896.

Island No. 11.

Position—Opp. Lot 3 Sec. 3-34-29 Mich.

On Michigan side of Main Channel.

Condition—Used and conveyed as a part of farm by owners of above Michigan description. This farm is the old Kittson Trading Post, and was in existence before the surveys.

Surveyed in Wisconsin plats as Lot 5 Sec. 33-34-21 and Lot 7 Sec. 2, 33-21.

Defendant's exhibit 366 shows the first description

entered in 1885 and taxes for 1889 sold—no transfers.

The second lot does not appear on the records.

Island No. 12. Baker's Island in Menominee, below Quinnesec Falls.

Position—Opp. Lot 4 Sec. 10-34-28 Mich. on Michigan side of Main Channel.

Condition—Unoccupied shown on original plats of both states and surveyed in neither.

Defendant's exhibit 366 shows no record of this island.

Island No. 13. In Menominee, below Quinnesec Falls.

Position—Opp. Lot 4, 36-35-28 Mich. on Michigan side of Main Channel.

Condition—Unoccupied and unsurveyed—sketched on Michigan plats—not on Wisconsin plats.

Island No. 14. In Menominee, below Quinnesec Falls.

Position—Opp. Lot 2-36-35-28 Mich. on Michigan side of Main Channel.

Condition—Same as No. 13.

Island No. 15. In Menominee, below Quinnesec Falls.

Position—Opp. Lot 1, Sec. 21-34-27 Mich. on Michigan side of Main Channel.

Condition—Same as No. 13 and No. 14.

Island No. 16. Long Island in Menominee, below Quinnesec.

Position—Opp. Lot 3-12-33-28 Mich. on Michigan side of Main Channel.

Condition—Unoccupied, uncultivated.

Shown on Michigan plat.

Surveyed on Wisconsin plat.

Lot 4-30-33-23-
1-31-33-23.

Island No. 18. Twin Islands in Menominee, below Quinnesec Falls.

Position—Opp. Lot 4 12-33-28 Mich.
1 13-33-28
on Michigan side of Main Channel.

Condition—Unoccupied and uncultivated.

Sketched in Michigan plats.

Surveyed on Wisconsin plats.

Lot 5, 6 and 27, of Sec. 1-32-22

Lot 4 of Sec. 12-32-22.

Plaintiff's exhibit 172, Engineers Report, shows the channel between both Long Island and Twin Islands and the Michigan shore as very narrow—slack, and these islands practically mainland of Michigan.

Island No. 19. Boom Island, near mouth of Menominee.

Position—Opp. Lot 3, Sec. 4-31-27 Mich. on Michigan side of Main Channel.

Condition—Unoccupied and uncultivated

Sketched on original plats of both states. Surveyed on special application in 1855 through Government Land Office in Wisconsin.

Island No. 20. Railroad Island.

Position—Opp. Lot 1, Sec. 4-31-27 Mich. on Michigan side of Main Channel.

Condition—Occupied by C. & N. W. and C. M. & St. Paul Ry. Company.

Sketched on plats of both states—surveyed, in neither.

Island No. 21. Sugar Island.

Surveyed as Lot 6, Sec. 3-31-27 Mich.

Not shown on Wisconsin plats.

Occupied by Menominee River Sugar Company and Central West Coal Company.

This island is now under the Plaintiff's jurisdiction,

but is within the Wisconsin conditional grant and its claims in the answer herein.

With the exception of Grand Island and Sixty Islands Group, no mention has been made of the large number of islands on the Wisconsin side of the Main Channel of the Menominee.

IV. The Green Bay Sector.

A. *General Conditions*

The Boundary in the Michigan Enabling Act is the center of the most usual ship channel.

The Wisconsin grant here follows the Michigan boundary.

The Traverse from Lake Michigan to Green Bay is broken into five principal channels. The question here is as to whether Port des Morte or Rock Island passage was the most usual ship channel in 1836.

After entering the bay a southerly course permits the choice of either Strawberry passage or the passage west of Chambers Island.

The monies appropriated by Congress, (Plaintiff's Exhibit 21) as a result of the memorial from the Michigan Legislature (Plaintiff's Exhibits 18, 19 and 20) were expended under the direction of Captain Cram (Plaintiff's Exhibit 94) under instructions to map the territory surrounding the boundary line, and in connection with the Hydrographic survey of Lake Michigan in 1842. He mapped the Porte des Morte passage and Strawberry channel (Plaintiff's Exhibit 97).

In doing this he surveyed the Door County Peninsula and the Islands here in dispute in order to show both sides of the most usual ship channel. He also took soundings with the evident intent of making his work useful for purposes of navigation.

He did not, however, define any line.

In the Wisconsin Enabling Act no further definition was furnished.

Thus Cram's survey being of a part of Wisconsin mainland, all descriptions were returned to Wisconsin for taxation.

B. Porte des Morte and Strawberry or Rock Island Western passage.

No determination of this question has ever been had.

The testimony of T. R. Hasley, R. P. 118, shows the Strawberry and Porte des Morte passage to be the shorter for vessels to or from Green Bay city, variously named as Green Bay, Ft. Howard, Haverino.

The charts, (Plaintiff's Exhibits 114 and 115) and the testimony of Vol Martin, Record page 656-9, disclose that the Porte des Morte passage is the safer and wider.

These charts and sailing directions, (Plaintiff's Exhibit 119) and Pilot Books (Plaintiff's Exhibits 118 and 180) indicate both the Porte des Morte and Strawberry passages better natural channels requiring less artificial marking for purposes of navigation, and in fact fairly safe without any marking.

An appropriation for a lighthouse on "Pottowatomie" Island at the entrance to Green Bay was made June 30, 1834, (4 Statutes at Large 721)/

The first record of an established light is Pottowatomie light on Rock Island in 1837, (Plaintiff's Exhibit 109). The Reservation was made June 8, 1840 (Plaintiff's Exhibit 120). Plaintiff's Exhibit 121 is a copy of the map submitted in letter of June 9, 1840, referring to the reservation. This map is of Boyers Bluff on Washington Island and not the location of the Pottowatomie light.

Captain Betts, (Record p. 31) testified that there

was some mistake about Pottowatomie light, that it should have been on Boyers Bluff.

He also testified that a light was burning in the old lighthouse on Plum Island when he first came through the Door in 1845, and was discontinued when Pilot Island was established (1850). He knew the names of the keepers.

There seems to be no government records of this lighthouse, but it is referred to in sailing directions, (Exhibit 180), the ruins are still there (see photos Plaintiff's Exhibits 126) also testimony of Fred Richter and Captain Peterson.

The Green Bay city light was established in 1848.

The Eagle Bluff and Chambers Island lights were established in 1868.

The appropriation of 1848 for a lighthouse in Porte des Mortes passage was spent for Pilot Island, (Plaintiff's Exhibit 109).

C. Tradition.

The witnesses, Mary Ann Cota, and Dave Cota, were Indians, whose father and grandfather, respectively, was an employee of John Jacob Astor; a pilot, a man "who went to show the people the way to go with their boats." They knew he took them "by Fish Creek" the Strawberry passage and through the Door, (Record P. 291), and that that was the usual course (Record P. 292). That the western channel was rough (Record P. 293). The Eastern channel was better sailing and the one the Indians had used for canoes (Record P. 294). She saw the Mackinaw boats with furs for Mackinac pass along that channel (Record P. 294) a lot of them, many times.

She is 68 and saw the first steamer when 9, it went to Green Bay via Strawberry passage, others came the

same way (Record P. 297). They traveled through the Door, the Indian for which was Kee bi skjonan. (Record P. 300.)

Dave became a sailor in the lumber trade inheriting his father's or grandfather's knowledge of Green Bay and its entrance, (Record Pps. 305-6). On all trips from the lake to southern bay ports he used the Door and Strawberry passage.

The western passage was dangerous for sail vessels because of no protection or landmarks (Record P. 308).

Just as the habit of the Indians passed to the sailors so it passed to the steamboat captains (Record P. 312).

The sailing vessels which did not use the door used the Poverty passage not the Rock Island passage (Record P. 131).

Other direct testimony was given by J. Hubert Francart, whose mother-in-law came to Green Bay in 1804, with her father, a trader, and repeated the trip from Mackinac to Green Bay spring and fall for many years. The trip was up the East shore (Record P. 774) (Strawberry passage) and through the Door.

He himself came from Chicago to Green Bay in 1856 through the Door and the Eastern passage, (Record P. 775) at that time he was told that was the only passage.

He described the Mackinaw boats as up to 10 foot beams and 35 feet in length.

Many historical articles were offered indicating travel along the east shore and through Porte des Morte. (see Appendix B.)

Without exception the early maps indicate a better knowledge of these channels, especially Plaintiff's Exhibits 6-8.

ARGUMENTS

Analysis of Boundary

The problem before Congress in defining this boundary was to follow lines marked by nature and to define a straight line by fixing a known point for each terminus.

Congress settled upon the main channels of the Montreal and Menominee Rivers and the center of the most usual ship channel of Green Bay as natural lines and it remained to define merely the land line from the Montreal to the Menominee.

A point of departure from the Montreal and a point of approach on the Menominee must be selected.

Congress selected the center of the lake at the head of the Montreal as the point of departure and the nearest headwaters of the Menominee as the point of approach.

The point of departure was described in the act as the center of the Lake of the Desert. Congress was referring to the Lake actually at the head of the main channel of the Montreal. It was entirely as a result of the confusion of Lakes by Captain Cram that the boundary was considered impossible and a new line granted to Wisconsin.

The boundary which Michigan seeks by this action to establish embraces only those lands which Congress intended she should have. No action by Congress since that time indicates that any portion of those lands should ever belong to Wisconsin.

The grant to Wisconsin was made by Congress as the result of a mistake which was not discovered until 1920.

This grant was at the time supposed to be substantially in accord with the intention of Congress in the Michigan grant and it was supposed that the Michigan grant was ineffectual because of an impossible line. Yet Congress made the Wisconsin grant, so far as it might be an adjustment of boundary, conditional upon ratification by Michigan. It was the clear intent of the Wisconsin act that without Michigan's assent Wisconsin could claim no land granted to Michigan.

Wisconsin apparently yielded every point where any conflict appeared until 1909.

By her constitution she accepted Michigan boundary in the Green Bay sector and the Menominee Brule Sector. In 1864 she relinquished claim to an island within her conditional grant (Merryman's Island) and over many other islands within the conditional grant she has never claimed jurisdiction until the filing of the answer in this case.

Michigan's rights in the Montreal-Vieux Desert sector were only partially disclosed in 1907 and the real error and its causes were unknown until 1920.

There are here no compacts, agreements or findings between Michigan and Wisconsin to color Wisconsin's claim to any lands within Michigan's true boundary.

1. HISTORICAL BACKGROUND.

A. The Area Before Congressional Action.

Prior to the actions of Congress in dividing the northwest territory, it was a country known only to fur traders and explorers; in the region now in dispute, particularly, there were no white settlements until some years after 1836. The Menominee river and the Montreal river were then untouched by the

loggers of later years and were merely arteries of travel for the voyageur. The district lying between the headwaters of these two rivers was a rolling wooded plateau studded with innumerable lakes. In this district, according to tradition, the Sioux and Dakota had centered their home life many years before, cultivating patches of land here and there upon the lakes, and living peacefully in a country very near in accord with the Indian idea of the "Happy Hunting Grounds." The Sioux and Dakota were driven out by the Ojibway who had been driven from their eastern home by the Iroquois. During the possession by the Ojibway, this district between the headwaters of the Menominee and the Montreal, and the many other streams finding their way into Lake Superior, Lake Michigan and the Mississippi; this high plateau country, studded with lakes on which were the settlements of the Sioux and Dakota, with their farms, came to be known in Indian as "Gete Kitagaming," the Deserted Farming Country. Most of the voyageurs and couriers des bois were of French extraction and the name "Gete Kitagaming" became "Vieux Desert," a French synonym, the deserted plantation country or the old farms. On the early maps this name appears variously in reference to either one large lake or a group of lakes, the relative position of the lakes varying considerably, but always being practically centered upon the divide between Lake Superior, Lake Michigan and the Mississippi. From this, we feel it is safe to conclude that the term "Gete Kitagaming" Indian, "Vieux Desert" French, and "Lake of the Desert" American, was at that time applied to the plateau where the Sioux and Dakota had had their farms, a district lying at the headwaters of the various streams

finding their way into the two great lakes and the Mississippi river, none of which district was in any way accurately mapped.

Organization of Northwest Territory.

The northwest territory was organized in 1805. The State of Virginia having laid certain claims to the territory, released them upon the condition that not to exceed five states would be formed, and not to exceed two out of the area lying north of an east and west line passing through the southern extremity of Lake Michigan. These conditions were imposed by Virginia for the purpose of maintaining the balance in Congress on the slavery question and have no connection with the present boundary dispute, except indirectly.

Mitchell Map.

At the time of the organization of the northwest territory, Congress had before it the Mitchell map of 1805, (Plaintiff's Exhibit 1). In this map the southern extremity of Lake Michigan was given a north latitude greater than that of the international boundary in Lake Erie, in which respect the map was in error. This error brought about the Toledo war and brought home to Congress the knowledge of the inaccuracy of the Mitchell map and the danger of defining a boundary in relation to one geographic point only, which is reflected in the later actions in Congress, particularly in the defining of the boundary here in dispute. Ohio, Indiana and Illinois were formed from the northwest territory, supposedly, from that portion of it south of the east and west line passing through the southern extremity of Lake Michigan, leaving the balance of the territory to be organized into not to exceed two states.

It was later found that all three states had encroached upon this line and we will treat further with the encroachment of Ohio.

B. Subdivision by Congress.

1. Territory of Michigan.

The territory of Michigan was organized in 1805, U. S. Statute at Large Vol. 2, page 309, out of that portion of the northwest territory lying north of this east and west line and east of a line drawn due north from the southern extremity of Lake Michigan. In 1818 the balance of the northwest territory was added to the territory of Michigan, being that portion which now comprises the western part of the Upper Peninsula of Michigan, the entire state of Wisconsin and a northern portion of the present state of Illinois. In 1834 all of the territory belonging to the United States west of the Mississippi river and north of the state of Missouri was added to the territory of Michigan.

2. Territory of Wisconsin.

The territory of Wisconsin was organized April 20, 1836. The bill providing for the organization of Wisconsin territory was introduced and passed after several bills for the admission of the State of Michigan were under consideration. The language of the act creating Wisconsin territory, in respect to the boundary in dispute, is practically identical with the language of the Michigan Enabling Act, except that it is in reverse order and the Michigan Enabling Act is a little more definite. In this connection, (see testimony of Col. Martin, page 667) the language of this bill as passed originated in an amendment March 25th, 1836, which materially changed the description of the line

now in dispute and indicated recent accurate information in regard to the geographic features along that line, and an intention to make the line accord with the boundary described in S 177—the Michigan Enabling Act, introduced in the Senate March 22nd. The amendment was on motion of Mr. Clayton—author of S 178 and Senator from Ohio who appeared frequently in records of passage of S 177.

3. Admission of Michigan.

a. Toledo War.

The admission of the state of Michigan came at the conclusion of a four year dispute with the State of Ohio, commonly known as the Toledo war. Conditions had reached such a stage that the President had sent representatives to the scene and ordered out troops to prevent disturbances and the Governors of the respective states, Michigan and Ohio, had authorized military men to use the power of either state. There were some riots, but little or no bloodshed and Ohio won the contest in the Committee of Congress.

b. Bill of 1834.

In 1834, a Mr. Preston, of South Carolina, at a Senate Committee meeting, suggested that Ohio be granted its claim and that in return for the loss of land to Michigan on the south, that it be given so much of the territory west of the lake as lay north and east of the Menominee and Montreal rivers. This is the first reference to the boundary which is now in dispute, and it is the line which was finally agreed upon in the Committee after Michigan had sent its delegates to Congress and finally conceded the fight to Ohio for the purpose of gaining admission.

In 1834 the bill before Congress for the admission of Michigan has no value in relation to the present dispute because in that Act the western boundary was defined the same as in the original Michigan Territorial Act, to-wit, a line drawn due north from the southern extremity of Lake Michigan.

c. Thomas Bill and Report 380.

The Thomas Bill introduced in the House March 2, 1836, by the Chairman of the House Judiciary Committee, and the subject of report by that Committee (Report 380) to which report was attached the Burr map of March 2, 1836, contains the first description of the boundary now in dispute. It was a bill to define the northern boundary of the state of Ohio, and provide for the admission of Michigan on certain conditions. In other words, it was a bill settling the Toledo war in accord with the suggestion of Mr. Preston in 1834. It appeared in the House a few days after the attendance of Mr. Schoolcraft upon a meeting of the Senate Judiciary Committee within ten days thereafter Mr. Burr, draughtsman to the House of Representatives, had changed his map of this territory evidently to accord with information which he or the Committee had received from Mr. Schoolcraft. The change made by Mr. Burr was to indicate the headwaters of the Montreal to be in a lake somewhat detached from the rest of the group and considerably to the northwest of the center of the group and to label the entire group Les Lac Vieux Desert. That this boundary was the object in Burr's mind in making this alteration (Plaintiff's Exhibit 6 and 7) appears clearly from the fact that he adds to that map the name of the Montreal and Menominee rivers which

were not on his map of March 2nd, and the legend Les Lac Vieux Desert which was not on the map of March 2nd, besides correcting the map to substantially conform with the geography as it exists. There can be no doubt but that his information for the correction of this map was furnished by Mr. Schoolcraft.

d. Michigan Enabling Act S. 177.

Following the introduction of the Thomas bill in the House, and on March 22nd, the same year, a duplicate bill, S 177, was introduced in the Senate by Mr. Benton from the Select Committee appointed to act upon the President's message. It will further be noted that Plaintiff's Exhibit 6 and 7 bear the note, "drawn to accompany the report of the Hon. Z. Casey." It elsewhere appears that the Hon. Z. Casey was a member of the Committee on Territories and used that map in connection with his report on other matters. That he was a member of the Committee which attended the joint meeting of March 21st. (R. page 677). His attendance in the House at the time of the passage of the Michigan act is shown. It further appears that the language of the Wisconsin Territorial Act was amended to conform with the language of the Michigan Enabling Act on March 25th (See R. page 668). That was three days after the Michigan Enabling Act as passed was introduced, and twenty-three days after a similar bill had been introduced in the House (See appendix c). It does not appear that any one connected with Congress at any time thought there was a continuous water boundary and the language of the Enabling Act clearly indicates that such was not the idea. It does appear that the Senators and Congressmen dealing with the subject of defining the boundary

of the State of Michigan had before them the difficulties arising from the use of the erroneous Mitchell map in 1805. Report 380 24th Cong. 1st Session. It appears that these gentlemen had before them an erroneous map, Burr's map of March 2, 1836, and that at the invitation of Hon. Silas Wright, a member of one of the Committees, Mr. Henry Schoolcraft, U. S. Indian agent for the territory of Michigan, and a man more familiar with that district than any other person available, was invited to address the Committee and impart such knowledge as he had on the geography of the country.

That on March 2nd, the Judiciary Committee of the House, made a report upon a bill introduced upon the same day by its Chairman, defining the boundary as it now exists, attaching to that report a copy of the old Burr map, but that within nine days thereafter Mr. Burr had corrected his map to accord with conditions as they exist, or nearly so, the corrected map being drawn for and furnished to a member of one of the Committees which met in the joint session February 19th. It also appears that a copy of this corrected map was furnished to the Hon. Lucius Lyon, Senator-elect from Michigan and that upon that copy somebody drew a blue pencil line indicating where the boundary was in accord with the Plaintiff's contentions in this case. That another copy of said corected map was filed in the Library of Congress with a line indicating the boundary.

On March 22nd, the Chairman of the Judiciary Committee of the Senate, introduced in the Senate, a bill which, in relation to the boundary at least, was a duplicate of the Thomas Bill, the latter being known as S

177, and being finally passed, became the Michigan Enabling Act. On March 25th, the language of the Wisconsin Territorial Act then under consideration, was amended so as to make the boundary conform to the language of the Thomas Bill and S 177.

C. Congressional knowledge and maps of the hour.

1. Schoolcraft.

Besides the maps in use, it appears from Plaintiff's Exhibits 40, 41 and 42, that Henry Schoolcraft, at the invitation of the Hon. Silas Wright, appeared before the Judiciary Committee of the Senate "to impart information, which I was supposed to possess, on the geography and natural resources of the Lake Superior Region." That he was quite familiar with the region appears in one of his letters, published in the Niles Weekly Register, dated August 5, 1836, and that his attendance upon the Senate Committee was February 19, 1836, appears from his letter, Plaintiff's Exhibit 40, to Lucius Lyon, written the next day, in Washington. That he considered Lake Vieux Desert as a lake at the head of the Montreal River, appears from the text of that letter, in the first paragraph, where he speaks of the advisability of giving up that portion of the territory west of ~~that~~ lake, to the mouth of the Montreal river. This he states, would embrace only the region of the Porcupine Mountains and nothing more, which would ~~not~~ be true if he were speaking of the same lake which was afterwards named Vieux Desert by Captain Cram.

Probably no person in the country was more familiar with the geography of this country and the Indians who lived in this district than Henry Schoolcraft. It

will be noted that the language of the Michigan Enabling Act as it exists, first appeared in the bill attached to Report 380 which appeared March 1, a few days after his attendance upon the Judiciary Committee of the Senate. That almost immediately following this date, the Burr map was corrected to accord with the more correct information which Schoolcraft undoubtedly possessed.

4. Burr's Map March 11, 1836, Exhibits 6-7.

The group of lakes is changed to show another lake a considerable distance to the northwest, which lake is there depicted as the head of the Montreal river. The Montreal river is shown as having several branches, but a principal channel in a general southerly direction heading in this lake and the legend "Les Lac Vieux Desert" is printed across the entire group of lakes including the lake at the head of the Montreal river.

Lucius Lyon Copy.

An exact copy of this Burr map of March 11th, is produced in evidence marked Plaintiff's Exhibit 6, this being a copy found among the private papers of Lucius Lyon, who was a delegate to Congress from Michigan in 1836. Upon this copy so found among the papers of Lucius Lyon a blue pencil line is drawn, evidently indicating the boundary agreed upon in committee. This line passes up the most central channel of the Montreal river to the lake at its head which is one of the group of lakes there denominated "Les Lac Vieux Desert." It then passes overland through the group of lakes to the head of the Menominee taking

its rise in another lake of said group, thence down the Menominee river.

Copy in Library of Congress.

Another copy of this Burr map of March 11, 1836, is offered in evidence as Plaintiff's Exhibit 7, being a photostat copy of the map on file in the Library of Congress. On this map the line indicating the boundary line agreed upon in Committee is inked in exactly as the line is blue pencilled in the Lyon map.

Considered in connection with his letters, it becomes apparent that Lucius Lyon obtained this map in connection with his services as delegate and the line was drawn to indicate the agreement which was reached in Senate Committee. Also patently the map in the Library of Congress was filed for the purpose of showing that agreement reached in Committee. It may thus be fairly said that the intention of Congress was that the boundary should pass down the most central or main channel of the Montreal river to the middle of the lake at its head which was one of the group of lakes described on the maps used by Congress, as "Les Lac Vieux Desert" or as the "Lakes of the Desert." From this point the boundary should pass overland to the nearest headwater of the Menominee river. This point is the outlet of Lake Brule. On this map there is no headwaters of the Menominee shown in the vicinity except the head of the Brule in Brule Lake, which was later determined by Captain Cram to be the head of the Menominee. The language of the act then carries the boundary down the Menominee river and then through the middle of the most usual ship channel of Green Bay to the middle of Lake Michigan. It

is noticeable that upon this map the group of islands at the entrance to Green Bay are inaccurate except in reference to the Strawberry Passage and the Port des Morte cape and passage, which indicates the more complete knowledge of this district.

The language of Congress, in the act, is evidently made in reference to the fact that there was at the time a certain channel which was being *used* by ships, which channel could be readily determined by any person upon the ground. It thus appears to us that unquestionably the intention of Congress was that the boundary should be drawn as contended for by Michigan in the bill of complaint in this cause, as more specifically shown in Plaintiff's Exhibit 174, here reproduced.

D. *Cram's error, its causes and effects.*

1. Causes.

Following the passage of S 177 and the acceptance by Michigan of the conditions therein prescribed, provision was made for survey of the boundary line now in dispute and after considerable delay one Captain Cram was entrusted with the mission. Cram's appointment came in July 1840, and he immediately set about gathering his party for his first trip which commenced at the mouth of the Menominee river, the river being ascended by canoe, without any accurate survey being made, to the head of the Brule in Brule Lake. Cram reports that he was considerably hindered by Indians who resented his encroach upon the property which they still had title to. Owing to the late start he got no further than the head of the Menominee, his

survey party running a line from there to a large lake which he named "Lake Vieux Desert", when snowstorms and bitter weather forced him to hasten from the country.

Instructions.

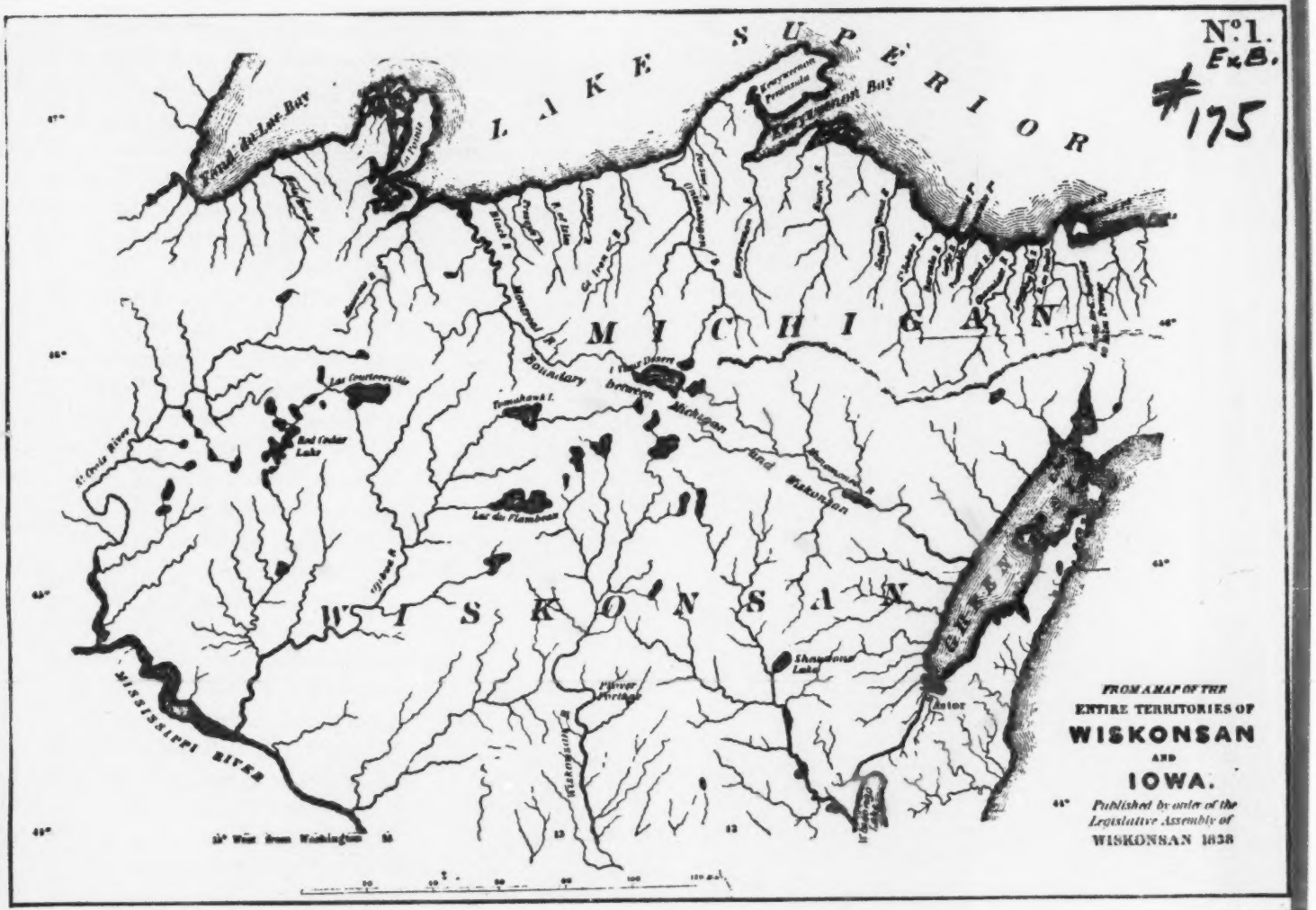
Cram had received instructions from the Surveyor General to survey that portion of the boundary which lay between the headwaters of the Montreal and Menominee rivers, his instructions being to the effect that it would not be necessary to survey the rivers themselves. He was told that the line must pass through old desert lake and that certain maps designated several lakes as Lakes of the Desert, but that the survey would furnish definite information.

Erroneous Indian Information.

He was not furnished with the map used by Congress at the time of defining the line, Plaintiff's Exhibit 6. On his arrival at the head of the Menominee river, the outlet of Brule Lake into Brule river, he was told by Indians that the Montreal river did not rise in a lake, but rose in a swamp far to the northwest as indicated by his map, (Exhibit C attached to the Bill of Complaint) attached to his first report and that it was eight days' travel by an Indian without a pack from Lake Vieux Desert to the Montreal.

Erroneous Map.

Cram also had in his possession a map, (Exhibit B of the Bill of Complaint), commonly known as the Judson map, being the map of the entire territories of Wisconsin and Iowa, published by order of the Legislative Assembly of Wisconsin, in 1838. On this map


LAKE SUPERIOR
MICHIGAN
WISKONSAN
IOWA
MISSISSIPPI RIVER
Grand Traverse Bay
Keweenaw Peninsula
Keweenaw Bay
Boundary
Lac Courtereille
Red Cedar Lake
Lac du Flambeau
Winnebago L.
Shaugonk Lake
Portage
Lake Winnebago
Green Bay
Michigan
Grand
Wisconsin
St Croix River
Rock River
Illinois
Mississippi
Milwaukee
Racine
Kenosha
Chicago
Detroit
Monroe
Toledo
Sandusky
Cleveland
Buffalo
Erie
Ashtabula
Portland
Boston
Albany
Utica
Rochester
Oswego
Syracuse
Ontario
Lake Erie
Lake Michigan
Lake Huron
Lake Ontario
Lake St Clair
Lake St Clair
Lake Michigan
Lake Huron
Lake Ontario
Lake Erie

both the Montreal and Menominee rivers are shown as rising in a large lake labeled L. Vieux Desert, the line of the rivers and lake being marked boundary between Michigan and Wisconsin, and showing a continuous water boundary, which it would be apparent to any engineer could not be in existence.

Captain Cram realized that the survey entrusted to him was intended to be the survey of a straight line between a point on the Montreal river and a point on the Menominee river and that Congress had, in designating the center of the Lake of the Desert, as a point in the boundary, intended to fix it as the point of departure from the Montreal River system.

Being informed erroneously by Indians that there was no lake at the head of the Montreal River but that it took its rise in a swamp and having in his possession a map which he knew to be erroneous but which indicated that the Montreal River took its rise in the large lake which he found near the headwaters of the Menominee, it appeared to him that Congress must have been misled by a similar map and defined a boundary which would be impossible to lay out.

It was not alone the erroneous information which Cram received which caused his error. It was the further indication that Congress which had, in fact, acted upon accurate information, had been misled by an erroneous map. Cram was not only misled himself as to the true conditions but he was misled as to the knowledge of Congress in defining the boundary and convinced that the boundary was impossible because of the erroneous information furnished on the Judson map.

2. Results

Cram being unable to continue his trip to the westward because of weather conditions, made a report drawing conclusions upon the information which he had obtained from the Indians, the Judson map and his own survey (the latter consisting merely of running a line from the outlet of Brule Lake to Lake Vieux Desert). He concluded that since there was no lake at the head of the Montreal river, the large lake which he called Lake Vieux Desert, must be the Lake referred to by Congress in the definition of the boundary, and that since it was not at the head of the Montreal it would be impossible to lay down a line as defined in the Michigan Act. His principal error lay in the fact that he became convinced that Lake Vieux Desert was the lake referred to by Congress as Lake of the Desert. This conclusion he arrived at from the Indian information that there was no lake at the head of the Montreal and from the Judson map which showed the large lake "L. Vieux Desert", in substantially the position in which he found it, as the head of the Montreal river. Cram in his report says that he is satisfied Congress acted on erroneous information to the effect that this lake was at the head of the Montreal river, whereas as a matter of fact Congress had the true conditions before it at the time it acted and unquestionably referred to that one of the lakes known as Lakes of the Desert which actually was at the head of the main channel of the Montreal river. As the result of Cram's first report, however, it was recorded that the line defined was an impossible line and that Lake Vieux Desert was the lake referred to by Congress. This error of Captain Cram was never discovered until the organi-

zation of the Michigan-Wisconsin Boundary Commission, in 1920, and in all other transactions in relation to this boundary the conclusions of Captain Cram were taken as true.

Second trip.

Subsequent actions.

In 1841, Capt. Cram returned to the district for the purpose, as he was instructed, of mapping the country between the headwaters of the Montreal and the Menominee in such manner as to enable Congress to further define the line. Under the direction of a Lt. Webster a line was projected from Lake Vieux Desert striking the east branch of the Montreal river, some distance above Pine Lake at its head, and at the junction of said river with a small creek known as Lehman's Creek. Capt. Cram himself ascended the Montreal river by way of the Portage Trail. He was accompanied at the start and again at the destination of this trip by Douglas Houghton, State Geologist of the State of Michigan. Douglas Houghton, according to his journal, travelled by canoe up the Montreal river which was then at flood stage. On arriving at the confluence he took the easterly branch for reasons which he does not mention. All three parties arrived at the spot later designated by Cram, Astronomical Station No. 2, now Cram Monument, at practically the same time. It is apparent, and the testimony of the engineers in that connection shows, that this could not have occurred except by pre-arrangement for a meeting at a point to be determined by latitude and longitude. The meeting at this point later designated by Cram as the headwaters proper of the Montreal river, was ar-

ranged by these parties before going into the woods, and does not reflect the discovery of conditions described in the boundary act, but merely was a point fixed by latitude and longitude to be used in further description of the line by Congress. On this trip Capt. Cram discovered that the head of the east branch of the Montreal was in a small lake known as Pine Lake. He caused an offset line to be run from the main line of survey to the center of this lake in order that its position might be accurately determined, and that its center might be used as a point in the boundary to be further defined. *It very evidently never occurred to Capt. Cram that this Pine Lake might be the lake referred to as Lake of the Desert in the definition by Congress,* because in his report he speaks of the advisability of disregarding Lake Vieux Desert and of laying out a further boundary and of laying the line directly over the land from the headwaters of the Montreal to the headwaters of the Brule. He left it open to Congress to determine whether the line should run from the Cram monument or from Pine Lake, and whether or not it should be run through Lake Vieux Desert, which he said was unfortunate because it made a crooked land boundary. Had Capt. Cram at any time had before him a map used by Congress in defining the boundary, unquestionably this dispute would never have arisen and the line would have been properly surveyed as Michigan now claims it should have been. Not having this information, Cram's second report continued and reiterated the erroneous conclusion that it was impossible to survey the line as defined by Congress.

As a result of the meeting of Capt. Cram and Doug-

las Houghton, the latter reported to the Governor of Michigan that the boundary was an impossible line. From the Houghton journal it appears that Houghton did not see any portion of the line except along the Montreal river itself from the mouth to the Cram Monument, and that he must have taken the information for his report from the report of Captain Cram just as he took the information for his sketch in his journal, which will be referred to later under the discussion of the Montreal river Sector.

The Michigan Legislature, as a result of a special message from its Governor, requested Congress to further define the line and further sums were appropriated which were spent by Capt. Cram in the survey of the eastern shore of Green Bay. Several bills were introduced in Congress re-defining the line, but failed of passage, and in this condition the state of Wisconsin was admitted with the northeast boundary based upon the erroneous information and conclusions of Captain Cram.

E. *Admission of Wisconsin* and subsequent developments.

1. Enabling Act.

It is perfectly apparent from the language of the Wisconsin Enabling Act, that an effort was being made to define a new line as the boundary and that the definition was being made to accord as near as possible with the original act according to the erroneous information given in Cram's reports. Congress was evidently impressed with Cram's report to the effect that Lac Vieux Desert was a necessary point in the boundary as

having been named in the original act, and also very apparently fully believed his report that the line as defined in the Michigan act was an impossible line.

Congress further recognized the fact that having made a grant to Michigan it had no power to make a subsequent grant of any of the same territory to Wisconsin, hence the provision in regard to ratification by Michigan.

The attitude of Michigan in refusing to ratify is that Michigan desired that territory which had been granted to her and none other, and it is our contention that the grant to Michigan still stands and that the grant to Wisconsin is in effect a grant up to the Michigan line. So far as the line from the center of Lake Michigan to Green Bay, and through Green Bay to the mouth of the Menominee is concerned, the language of the Wisconsin grant follows the grant to Michigan. This is also substantially true along the Menominee and Brule rivers, except for the attempted settlement in regard to the islands, which was not ratified or carried out, in fact. As to the Lake Vieux Desert and Montreal River sector, Cram's error is responsible for the definition of the boundary given in the Wisconsin Act and for any delay on the part of Michigan in asserting its claims to the line now demanded in this bill.

Just as the State of Michigan, through its desire to become a state, conceded to the State of Ohio a portion of its territory, just so the state of Wisconsin in its anxiety to become a state, accepted a northern boundary conditional upon the line to which Michigan was entitled.

2. Burt's Survey.

Following the admission of the state of Wisconsin, William D. Burt, was appointed to survey the line as described in the Wisconsin Enabling Act, which he did, inventing the Solar compass as an aid to the work because of the difficulties found with the magnetic compass on account of the ore deposits in the districts.

The survey of towns and ranges then followed, first in Wisconsin and then in Michigan, and later the subdivision into sections and quarter sections. In all these later surveys the Burt line was used for want of a better one, it being the only line marked out upon the ground, the surveys being made under said Burt.

3. Taxation.

After the surveys had been completed, from time to time, title to the land passed out of the government into private hands and taxation thereof was commenced by the State in which it had been surveyed and the descriptions being returned by the land office to respective states. This was a gradual process, commencing, in some instances, soon after the admission of Wisconsin, and in others, as late as 1909.

Except in relation to the Burt survey it was accidental in its character, particularly in relation to the islands in the Menominee river where no plan was followed. In some instances Wisconsin laid claim to and taxed islands clearly on the Michigan side of the main channel, and not within the conditional grant of its Enabling Act, and Michigan adopted the general policy of assessing such islands as were brought to its attention within its grant. In one instance both states assessed

an island. This was the instance of a large island known as Merryman Island, containing over three hundred acres of land. It is on the Michigan side of the main channel and within the Michigan grant. It is also an island in the Menominee, below Quinnesec Falls, and thus within the Wisconsin conditional grant. Wisconsin, however, yielded its claim to this island and the survey of the island in Wisconsin was cancelled. A great many islands have never been surveyed and have never been taxed or occupied. More details of this condition will be given later.

Immediately following the admission of Wisconsin, the territory in question came into the hands of lumbermen and was rapidly logged off. Notoriously the lumbermen were indifferent as to the title to the lands they logged off, and it may be well supposed that they were indifferent as to whether they stole timber from their own or from their sister state, the actual location of the boundary was unimportant to them and no reason existed for anybody to investigate its condition or exact location for many years.

4. Discovery of Error as to Montreal.

The first intimation that any error had occurred, came as the result of investigation by one George Cannon, in 1907 and 1908, who being in the region of the Montreal river on exploratory work, and evidently being familiar with the language of the Michigan Enabling Act, discovered that the boundary ran along the east branch of the Montreal, whereas it appeared to him that it should run along the west branch as the west branch appeared to him to be the main channel of the stream. This discovery he conveyed to the Hon.

Peter White of Marquette, and with his help, brought it to the attention of the Michigan Legislature in 1907. Peter White was appointed as representative to the state of Wisconsin to negotiate with that state on the subject, and being received indifferently, an act was passed by the Legislature authorizing the Attorney General of Michigan to investigate the matter and bring such suit as he deemed advisable. At the same time a newly adopted constitution of Michigan claimed the West Branch as a boundary. The Attorney General employed one Prof. Davis of the University of Michigan, to make a private investigation. He learned but little of the true conditions. The then existing Attorney General, passed out of office, failing to make a report requested of him by the Senate, and the matter continued over from session to session, until, in 1919, an act was passed creating the Michigan-Wisconsin Boundary Commission, for the purpose of developing the full situation and in a later session of 1921, a further act was passed giving the Attorney General authority to bring this action. The Michigan-Wisconsin Boundary Commission was composed of men reputed for their knowledge of history and the local conditions of the territory. After nearly two years of insistent searching, they gathered the information which is here presented to this court, and came to the conclusion that Capt. Cram had made a serious error; that the line defined in the Michigan Enabling Act was a possible line and that the State of Michigan was entitled to demand the territory kept from them by reason of this error.

The Commission had learned that the west branch of the Montreal is, over its entire length, a larger

stream than the east branch. That it flows more nearly in the center of the drainage area and more nearly corresponds to the river shown on the map, Plaintiff's Exhibit 6 and 7. That it has at its head a large lake, Island Lake, and that by local tradition it is as well entitled to the name Montreal as the east branch, if not better.

That independent of whether or not the east branch or the west branch should be found to be the main channel of the Montreal river, there exists at the head of either branch a lake and that one of said lakes should be taken as the lake designated by Congress "Lake of the Desert" it being shown upon the map, Exhibit 6 and 7, as being at the head of the main channel of the Montreal river. With this situation it requires merely to determine which channel is the main channel of the Montreal river, to satisfy the first two directions as to laying down the boundary. From that point it requires merely the survey of a line to the nearest headwater of the Menominee river since Lac Vieux Desert is merely an interloper injected by Capt. Cram because of erroneous information and is not and never should have been in any way connected with the boundary between these two states.

Under the directions of the Commission a recognizance of the Brule and Menominee river was made to determine which islands would fall within the State of Michigan under the Michigan grant and great confusion was discovered. The location of the boundary in Green Bay, according to both acts depends upon the location of the most usual ship channel in 1838, and from investigation it appeared that Michigan is en-

titled to the islands north and west of the Strawberry channel and Port de Morte passage.

II. The Montreal-Vieux Desert Sector.

A. What is main channel of River Montreal.

Captain Cram placed his monument at the intersection of his surveyed line with the East Branch of the Montreal and surveyed that branch to its junction with the West Branch and the main stream from the confluence to Lake Superior.

He did not survey or even explore the West Branch.

In justice to Cram, let it here be said, he was not instructed that the boundary was to follow the middle of the *main channel* of the Montreal, but merely that it should follow the channel of that river.

Thus no determination of this question has ever been had. Cram's survey was generally accepted and the existence of the question was unknown until in 1907, Geo. Cannon, disclosed it in a letter to (Plaintiff's Exhibit 67, 69, 70) to Hon. Peter White, wherein, among other things, he suggested that it be properly determined "whether the headwaters of the Montreal were in Island Lake where nature put them, or at the confluence of a small creek with the East Branch where Capt. Cram put them."

1. Report of Michigan Engineers.

The essential facts were reported by Engineers Rupp and Burridge (Plaintiff's Exhibit 170.)

West Branch 96.6 sq. miles.

East Branch 112.28 sq. miles.

The report further states that the above areas in the case of the East branch includes the watershed of Spring Creek, which affects the flow of the East Branch only a short distance above the confluence, and that the flow out of Island Lake at the head of the west branch is considerably greater than the flow from Pine Lake at the head of the east branch.

The drainage area of Spring Creek was determined to be 17 sq. miles (Chas. Halbert, page 865.)

This condition is aggravated by other smaller streams on the East Branch whereas the West Branch has no tributaries except small runs.

Thus the picture reported by Rupp and Burridge is that the West Branch carries a larger flow out of Island Lake than the East Branch receives from Pine Lake, and that it carries a larger flow over its length from source to confluence because a great proportion of the area drained by the East Branch only affects the lower mile or so.

The attempt by Wisconsin witnesses to discredit this testimony and its complete failure is here worthy of relation.

The Michigan Engineers procured the compiling of a map, Plaintiff's Exhibit 173, and from it by means of a plenimeter computed the drainage areas as given. They had surveyed or reconnoitered the entire district and the map was compiled from their information and plats in the office of the Oliver Mining Company and represented an honest effort to get at the real facts of the matter.

The Wisconsin Engineers took the map, Plaintiff's Exhibit 173, and *corrected* (?) it. Defendant's Exhibit 350.

The method was to have an engineer, Mr. Steinmetz,

in the office of the Wisconsin Railroad Commission, check the map with original government survey plats and squeeze the respective drainage areas out of shape by reason of small streams, etc., not shown on the Michigan Engineers' Map, which he claimed to find on the original plats. The result was so laboriously arrived at as to be difficult to dispute and showed a total watershed for the west branch of 87 sq. miles, and east branch of 114 sq. miles.

Unfortunately for this young man's efforts, at about the same time Stephen B. Soule, Chief of the U. S. Geological Survey for this district, had made a practical check on the drainage areas. His conclusions were far at variance with Mr. Steinmetz, and his correction of the figures in the report of the Wisconsin Railroad Commission with which both Mr. Steinmetz and Mr. Halbert, were associated, forced the admission by Mr. Halbert, pages 865 and 866, that the Michigan Engineers were substantially correct.

We will later show how another attempt by these same Wisconsin witnesses to discredit the work of Rupp and Burridge fell like a house of cards.

This conclusion of the Michigan engineers now remains unchallenged.

So far as watershed is concerned in relation to the confluence the East Branch is somewhat larger, but over their entire length except the last mile, the West Branch carries the discharge, from a considerably larger drainage area.

The West Branch is a river of considerable size from Island Lake to the confluence.

The East Branch is a much smaller river from Pine Lake for the greater part of the distance to the confluence.

2. Volume.

A tremendous volume of proofs upon this subject makes subdivision imperative.

Float Measurements.

Stream Gauging.

Upstream West Branch at Gile.

East Branch at Ironwood.

Confluence.

In Exhibit 170 the Michigan Engineers report the taking of float measurements for a comparative test of the two branches, which they say were substantially supported by the report of the Wisconsin Railroad Commission, on measurements at Gile and Ironwood respectively, from which they conclude that the flow in the West Branch is the greater. This at points some distance above the confluence and on the East Branch above the mouth of Spring Creek.

Stream Gauge Measurements.

Upstream West Branch at Gile.

Stream gauge measurements over a period from 1917 to 1925 are in evidence.

They show a mean

1917-18-19	76.8
20	82.7
21	68.8
22	69.6
23	59.2
24 Ex. 344	67.6
25 Ex. 345	46.3
or a mean over the period	67.2
and over the period 1917-23 a maximum discharge	1480
a minimum discharge	2.4

The East Branch at Ironwood
figures available show a mean

1917-18-19	58.7
20	71.1
21	54.9
no mean 22	
no figures 23	
24	31.1
25	29.3
or a mean over the period	49.1

over the period 1917-22

a maximum	910 cu. ft.
minimum	2.3 cu. ft.

This station on the West Branch and the gauging station at Ironwood on the East Branch are practically corresponding distances upstream from the confluence and in the case of the East Branch above the mouth of Spring Creek. These measurements fairly reflect the relative size of the two streams except that the ratio increases nearer the headwaters in favor of the West Branch and from the junction of Spring Creek with the East Branch, they are approximately equal, the West Branch still attaining higher peaks.

At the confluence.

In 1924 and 1925 gauging stations were established by Wisconsin engineers for the purpose of obtaining evidence to be used in this suit.

Michigan engineers were not invited to co-operate or inspect this work. The results have been tabulated and hydrographed in various forms which at a glance indicate an overwhelming proportion of the waters of the Montreal produced by the East Branch.

The testimony of Mr. Macy, an expert employed by Michigan counsel to assist in fathoming the intricacies of these proofs, discloses, and this is not disputed:—

The figures given in defendant's proofs in relation to discharge at the confluence over the entire period show a relation of

West Branch 100%
East Branch 105%

which difference Mr. Macy says, page 982, is within the possible error in measurement.

Eliminating the month of July, low stage, the relation is

West Branch . . . . . 100 %
East Branch 100.7%

and the figures for one additional week of peak discharge such as are disclosed would reverse the ration (page 983).

The Hydrograph, Defendant's Exhibit 352a, indicates the East Branch in April 1925, reaching a flood stage in excess of the West Branch.

It is difficult to reconcile this with the records at Gile and Ironwood over a long period which show a peak ratio of 1480 to 910 unless we apply the testimony of Chas. Halbert, defendant's witness, on the character of the streams (page 961), that the West Branch comes in flood and recedes quicker than the East and conclude the Graph is showing merely the tail water of the April flood which may well be since the greatest discharge shown is at the inception of the graph West Branch 277 cu. ft. East Branch 328 cu. ft.

Diagrams at Confluence.

In connection with the efforts of Wisconsin Engineers two diagrams and various photos

Diagrams 120-120a
Photos 122-122a
123-123a
124-124a

were made and introduced and there is considerable testimony in relation thereto.

It would seem the primary purpose of this offer was again to discredit the witnesses Rupp and Burridge by attacking their sketch of the confluence (Plaintiff's Exhibit 171) attached to their report on the Montreal, (Plaintiff's Exhibit 170).

The sketch of the Michigan Engineers, according to their testimony, was a careful sketch made by pacing and hand compass and fairly reflects the situation as they found it in 1920. The lines indicate defined banks which they say were at the time confining the water.

The diagrams, Defendant's Exhibit 120-120a, were made by a corps of engineers by the pacing compass traverse method, in 1924, and the lines indicate two different stages of waters edge and do not indicate well defined banks as in the case of Exhibit 171.

The photos are taken from points and in directions shown on the Diagram, Exhibit 120a.

A careful comparison of the two diagrams indicates two essential differences.

A difference in the outline of the Islands in the enlargement of the river below the confluence which is easily reconciled by the fact that Plaintiff's Exhibit 171 shows the defined banks in 1920 and Defendant's Exhibit 120 shows the water's edge in 1924-1925.

The most essential difference is the point of land on the right bank of the East Branch at the confluence which is shown on Plaintiff's Exhibit 171 and is not on Defendant's Exhibits 120-120a.

These defendant's exhibits were offered at the hearing in Madison in the Spring of 1925, and Plaintiff's counsel having seen the confluence in 1919 readily

recognized from defendant's diagram and photos that there had been a wash in this location and that the log jam in the mouth of the East Branch had forced the water to cut across this point into the confluence, and the large stump upright in the photo 122 in the mouth of the East Branch and immediately behind the gentleman wearing a cap was all that was left of the point of land shown on Plaintiff's Exhibit 171. The wash had also possibly made some change in the outline of the islands.

With this evident fact in mind cross examination of defendant's witnesses who compiled the exhibits was had for the purpose of disclosing the situation and reconciling the two diagrams.

This cross examination was met with the scoffing positive assertion that such a wash could not have occurred. Mr. Hotchkiss going so far as to assert that instead of the channel on the photo indicating a wash it was rather a built up bank and the record was in such shape as to indicate that the Michigan engineers had made a glaring error or an intentional fabrication.

The point in issue is of little materiality except as it affects the credibility of Messrs. Rupp and Burridge.

To a man the Wisconsin witnesses insisted that no wash could have occurred, until Arne Johnson, their guage reader at the confluence stations, was produced to authenticate the readings.

Here was a man who lived beside the confluence—who had seen it as the Michigan engineers saw and sketched it.

It immediately developed that he had stood on the bank and watched the river make the new channel around the log jam and that a neighbor was with him, Hjalmer Kalominin, testimony page 921.

Thus fell another house of cards.

3. Mine Pumpage.

A great deal of evidence has been given on the subject of mine pumpage, its source and volume.

It becomes apparent that the total pumpage into the East Branch is greater than that into the West Branch by 3 or 4 cu. ft. per sec. difference.

Defendant insists that this pumpage is all water which if not pumped would be hydrostatic pressure or by some other means find its way back into the streams.

We do not understand just why, if this is true, practical miners do not take advantage of the principle which controls the phenomena instead of spending large sums to pump the water to the surface.

Neither can we reconcile it with the well known fact that many of the mine workings are directly under lakes which are not thereby drained.

However, the real importance of the mine pumpage is in relation to the low stage data on stream flow.

When an exceedingly dry season occurs, run off practically ceases in this rocky country, but pumpage never falls below a certain minimum and at this stage a large percentage of the flow in both branches is from pumpage.

Deducting the pumpage from the flow in each branch as shown on the graphs would make an entirely different picture.

Mr. Macy shows the per cent of difference in flow as 5% or less, and taking an average discharge of 50 cu. ft. the difference of 3 or 4 cu. ft. in pumpage would be 6 or 8%.

To close the subject of volume let us say that at the confluence the discharge is so nearly equal as to be

a negative factor in determining which is the main channel of this river system.

From the confluence to the source, except for the first mile or so, the volume of the West Branch at any given point exceeds the volume of the East Branch at a corresponding point upstream from the confluence the ratio by which the volume in the West Branch exceeds that of the East increasing as we approach the lakes at the head of either branch.

The ratio at Gile and Ironwood, as shown by T. R. Hasley, gives the West Branch from 20 to 40% greater volume.

Position and Use.

The East Branch flows in a Northwesterly course from Pine Lake and after being augmented by several creeks—Lehmans, Rock and Spring, turns back upon its course to join the West Branch at a right angle in breaking through the natural barrier the second barrier from the Lake described by Houghton and Cram.

It thus appears that in the formation of these watersheds the flow from the West Branch area first broke through the barrier to discharge into the lowering waters of the Lake Superior district, and the flow from the East Branch area found it easier to back away from the barrier to join the discharge from the West Branch area.

We thus have the West Branch flowing directly down the center of the drainage area.

The testimony shows the West Branch with the remnants of improvements for log driving. That the East Branch could be traveled by canoe only in flood stages while the West Branch was navigable for canoes at all times, though very rapid.

This is particularly interesting in connection with the early maps showing the Montreal as navigable for canoes.

The West Branch follows the course of the river shown on the map used by Congress and was the most important from the then important standpoint, its use as a means of transportation.

4. Tradition.

Elaborate proofs offered by defendant to show that the East Branch was always the "Montreal" and the West Branch was the "Gogogashgun" disclose instead that the Indians had their own names for both branches and for the Main Stream and never knew any part of the system by the name Montreal until the advent of the French, who gave the name to the lower river because of the falls at its mouth.

The definition Montreal as applied to the East Branch on maps is undoubtedly the result of Captain Cram's accepting it as the Montreal.

It is remarkable that even after Cram's work the village of Montreal was organized on the West Branch, a mine discovered on the West Branch was called the "Montreal." The "Montreal River Logging Company" was organized to operate on the West Branch and the school district of Hurley named its school on the West Branch as the Montreal school.

B. What Lake is "Lake of the Desert."

Determining Factor.

The Enabling Act reads,

"Thence through the middle of the main channel of said River Montreal, to the middle of the Lake of the Desert."

The pertinent inquiry under this heading is to what lake did Congress refer in the enabling act when it designated as a necessary point in the boundary the center of the Lake of the Desert. A scrutiny of the act reveals that the purpose of Congress in designating this point was to fix a point of departure from the Montreal River system and that unless such was the case, the description of the boundary would necessarily be defective in that no connection is made between the Montreal River system and any lake not connected with that river.

It is a well established principle in the construction of grants that such construction will be made as to make the grant a possible one and it must necessarily follow that Congress in making the center of the Lake of the Desert a necessary point in the boundary was designating a point on the Montreal River system from which a straight line could be run to another point on the Menominee River system.

It further appears (Exhibits 6 and 7) that Congress was informed (Exhibits 6, 7 and 8) by maps in its possession that there was a lake at the head of the main channel of the Montreal River which was one of a group of lakes described upon said maps as "Les Lac Vieux Desert" or "Lakes of the Desert."

Further a study of the derivation of the name "Kati'kit'egon" in Indian, Vieux Desert in French, and the American translation, "Lake of the Desert" shows that the name relates to the fact that the Soo and Dakota had farms in that region and it will thus appear that any lake on the plateau or divide of the Mississippi, Lake Superior, and Lake Michigan region, is as well entitled to the name as any other lake in that region and that the name was applied indiscriminately

to these lakes fully appears in the exhibits as outlined in appendix A of this brief.

It further appears that the Congressional action followed information given by Mr. Henry Schoolcraft and from Schoolcraft's letter (Plaintiff's Exhibit 40) it appears that Schoolcraft considered the Lake of the Desert as at the head of the Montreal River and not the lake which was at the head of the Wisconsin. Since Schoolcraft speaks of the territory west of that lake as comprising merely the region of the Porcupine Mountains while Schoolcraft well knew from his travels that the lake at the head of the Wisconsin was directly south of Keweenaw Bay and that the country west of it would include the entire Keweenaw peninsula.

There is a lake at the head of each of the principal branches of this river system.

Whichever is the Main Channel there is a lake at its head, and the boundary should pass up the middle of that channel to the middle of that lake.

Cram's Monument does not satisfy any position in the definition of the boundary and Cram did not expect it to do so.

Captain Cram definitely fixed a point by latitude and longitude which could be used in further defining a line which he supposed was necessary because he could not survey the line as then defined.

Captain Cram was a resident of Wisconsin Territory, perhaps imbued with the idea that his territory was being robbed of the Upper Peninsula, but we believe his error was bona fide, and occasioned by the misinformation mentioned.

He was convinced that Lake Vieux Desert was the "Lake of the Desert." He never knew that the lake

at the head of the Montreal was in a group of that name.

To his mind, after leaving Brule Lake, the boundary must run to the center of Lake Vieux Desert, a point never intended by Congress, and from there somehow connect with the Montreal River. He established his monument merely as a point where this connection could be made in future Legislation, and at the same time he established a point in the center of Pine Lake for the same purpose.

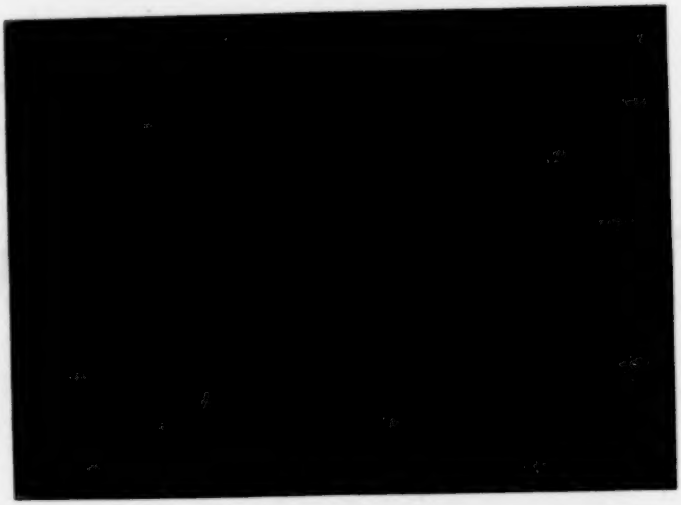
Cram did not see his error because he never saw the map used by Congress. He did not survey and map the West Branch and Island Lake, probably because he did not have time and provisions, (he was four months doing what he did) or because he was not instructed to determine the "*Main* channel of said river Montreal."

Public Views of Congressional Intent Before Cram's Error.

In the letter of Lucius Lyon and others, it is apparent that the Montreal river and Menominee river were considered as the determining factors in the boundary, with the lake of the Desert important only as being the terminus of the line along the Montreal River.

This public interpretation clearly appears in Plaintiff's Exhibit 59, a map entitled "Guide through Ohio, Michigan, Indiana, Illinois, Missouri, Wisconsin and Iowa," by J. Calvin Smith, published by J. H. Colton, Merch. Exch. New York, in 1840.

On this map conditions in this region are so similar to those shown upon Exhibits 6 and 7, as to induce the belief that at least that portion is a copy of those exhibits, the only change being that the legend "Les Lac Vieux Desert" on Exhibits 6 and 7 is omitted and



instead the small lake at the head of the Montreal is labeled "Lake of the Desert."

How unfortunate that Captain Cram did not have this map in his hands during his survey instead of the erroneous map published by authority of the Wisconsin Legislative Assembly.

Public Views After Cram's Error

The nearly correct delineation found in Plaintiff's Exhibit 59 was entirely destroyed by Cram's report and many maps of subsequent date are more erroneous than the much earlier ones.

Defendant's Exhibit 166, by Disturnall in 1865, to accompany his book, "The Great Lakes," shows a string of lakes from the Montreal to the Menominee as a boundary with L. Vieux Desert to the North of the line.

Defendant's Exhibit 170, Part 2

Compiled at the request of the Senate in 1839, by Bureau of Topographical Engineers, is a duplicate of Exhibit 6 and 7 in relation to this district, except that the legend "Les Lac Vieux Desert" is changed to "Lakes of the Desert" and applied only to the group and not to the somewhat detached lake at the head of the Montreal.

This is evidently the map referred to in the instructions to Captain Cram.

Defendant's Exhibit 193

A sketch of the Public Surveys in Wisconsin, made after the survey of Door County in 1842, shows the Montreal without any lakes at its head in two principal branches—the boundary passing between them to the confluences.

Defendant's Exhibit 194

A sketch of Public Surveys in Wisconsin and Minnesota, October 1851, shows the Montreal with two branches and no lakes and the boundary reaching the easterly branch near the confluence.

Defendant's Exhibit 195

A sketch of Public Surveys in Wisconsin, 1866, still shows no lakes at the head of Montreal and only one principal stream.

Defendant's Exhibit 196.

By Department of Interior, General Land Office, 1878, for the first time shows true conditions.

During the period from 1840 to 1878, the actual conditions were not made known to the public or the officials of the State of Michigan, and during that time the parties originally interested and knowing the conditions at the time of admission passed out of office and to a great extent out of existence.

The error and the fact that Congress had acted on correct information and had defined a possible line never became apparent to anyone until the research work of the Michigan Commission made it apparent.

The Michigan Commission learned that Congress had acted upon Exhibits 6 and 7, and intended the lake at the head of the Montreal by the language "Lake of the Desert;" that Cram had acted on Indian information, that there was no lake at the head of the Montreal and upon the Judson Map, which he found to be erroneous and supposed had misled Congress.

No one person ever knew both of these facts until 1921.

In the light of present knowledge, it is apparent

what Congress intended as the determining features of the boundary.

From evidence in this case they may be applied:

Up to the Middle of the Main Channel of the Montreal—we claim the West Branch, but

To the Middle of the Lake of the Desert—either Island Lake or Pine Lake, depending on the proceeding determination

Thence to the nearest headwater of the Menominee (the outlet of Lake Brule).

Lake Vieux Desert is an Interloper and should not be a point in the boundary.

The determining of the main channel of the Montreal and defining of a line from the center of the lake at the head of that channel to Lac Brule, gives a boundary in accord with the act.

It can be done from the evidence in this case without any survey since the territory is now accurately mapped and the exact location of all necessary points accurately determined.

III. MENOMINEE—BRULE SECTOR

There is little room for argument in regard to this sector. The conditions are undisputed and a determination of the line essential since none exists the greater part of the way.

The choice would appear to be between the line of the Michigan Grant "the middle of the main channel" or the line of the "Wisconsin Grant" since no line has been established by survey or possession.

The line of the Wisconsin Grant is an impossible line unless the existence of natural facts is totally ignored.

Under the language of the Wisconsin Enabling Act how is the line along the center of the main channel to be projected into the channel between the island and the Michigan shore?

To run a line along the center of the main channel so that it does not follow the center of the main channel would be the requirement.

However, it is perfectly clear that the main channel is the only feasible line. It was the line granted to Michigan. The grant to Wisconsin was conditional and never ratified. Neither grant has been actually exercised.

The existing confusion can readily be terminated be a decree fixing the center of the main channel as the boundary and cancelling the Wisconsin surveys of the islands on the Michigan side, or arranging their transfer to plaintiff's jurisdiction.

The location of the main channel in relation to these islands is nowhere in dispute.

IV. The Green Bay Sector

"Thence down the center of the main channel of the same (Menominee River), to the center of the most usual ship channel of Green Bay of Lake Michigan; thence through the center of the most usual ship channel of Green Bay to the center of Lake Michigan."

There is a ship channel to the west of Chambers Island and the Strawberry Group, and through Rock Island Passage to the north of Washington, Rock, Detroit and Plum Islands. Were this the most usual in 1836 the islands mentioned would belong to Wisconsin.

The Strawberry passage to the east of Chambers Island and the Strawberries, and the Port des Morte passage to the south of Washington, Rock, Detroit, and

Plum Islands, if held to be the most usual would place all of these islands in Michigan.

These are not continuous passages and should be considered separately, i. e.

1. Rock Island or Port des Morte,
2. Strawberry Passage or West of Chambers.

It appears the channel between the Strawberries and Chambers Island was never used.

No determination has ever been made of this portion of the boundary.

Captain Cram discusses the question in his reports and recommends a further definition.

Later the same Captain Cram expended sums appropriated for the purpose of surveying the boundary in a survey of Door County, Wisconsin, including the Islands now in dispute. He did not, however, attempt to locate the boundary.

These islands having been surveyed in connection with Wisconsin mainland came to be treated as part of Wisconsin in the natural course of proceedings, and were never called to the attention of Michigan officials until the appointment of the Boundary Commissioner.

Having been surveyed in connection with Wisconsin, when entered the descriptions were returned to Wisconsin for taxation a process becoming complete about 1910, except for government reservations and some descriptions on Detroit and Plum Islands.

Cram's survey being as it was an expenditure of sums appropriated for the purpose of surveying the boundary, and in line with his instructions in 1841 to map the surrounding country, is a clear indication of where the most usual ship channel was.

In this connection it is also important to note that

his survey included soundings and such other marine date as would aid navigation of this channel.

This alone should be sufficient to determine the question since Cram's survey mapped merely the Porte des Morte and Strawberry Passage, and was an aid to navigation through those channels only.

But that such was the most usual channel also appears by much other evidence.

It may be classified as follows:

The choice being that of a sailor, his attitude should be considered and hence the importance of

A. Physical advantages

Since the expenditure of public money usually follows the greatest public need, we consider the

B. Public Improvements,

And since eye witnesses of the traffic at the time in question are not available we look to

C. Tradition,

1. The Rock Island Passage vs. The Porte des Morte Passage.

A. Physical Advantages

1. Distance

A brief perusal of the charts will indicate that for traffic into Green Bay to all points south of its entrance from any point south of the Fox Islands, the Porte des Morte passage would be the shorter.

It is in this connection that it becomes important to learn that the principal traffic into Green Bay at the period was to the settlement at the south end of the Bay, variously referred to as Fort Howard, Depere, Navarino, Green Bay.

The exports—furs, lead, ore and forest products.

The types of boats—Mackinaw boats, schooners, and an occasional steamer.

The steamers ran regularly from Buffalo to Mackinaw and Milwaukee and Chicago, and other southern Lake Michigan ports, occasionally entering Green Bay on the trip up from Chicago to Milwaukee.

The goods were reshipped from Chicago, Milwaukee or Mackinaw to Green Bay in schooners, except for small individual shipments in Mackinaw boats.

The Mackinaw boats were a survival of the fur trade, from 30 to 60 ft. long, usually rowed, and could be pulled out on the beach with tackle in case of storm, an enlarged canoe and scarcely a ship.

The lead ore came down Fox River in barges and left Green Bay in schooners.

The steamers were far from the coal fields and used wood for fuel.

For all this traffic the Porte des Mort's passage presented a course as short and for the majority of it, much shorter than the Rock Island passage.

Difficulties of Navigation

With present aids to navigation all five passages from Lake Michigan into Green Bay, through the islands of the Grand Traverse, are simple and used according to convenience.

It might however be argued that the hazards of the period would result in the choice of a longer passage did it not fully appear that the shorter passage was also the least hazardous.

The sailor is at home upon deep wide waters and it is the proximity of terra firma—beneath or ahead which presents his hazard.

A passage between bold headlands with deep water close to land is relatively safe.

Outlying shoals invisible in thick weather or darkness, present a hazard not to be attempted except by the local pilot.

The minimum width of the Porte des Morts passage between the Porte des Morts Bluff and Plum Island is given, Col. Martin's testimony, page 658, 1½ miles, this is in a depth exceeding 12 ft. and for a distance of less than a mile, while passing Plum Island only.

The mariner is guided through this channel by this headland on the south and Plum Island on the north. On the Lake Michigan side Pilot Island is a natural guide to the entrance from which even on the darkest night a course could be set through the passage.

This island could be approached close enough to become visible on any but the darkest night without danger. (Capt. Clow's wreck, History of Door County.)

There were no outlying reefs except the Eaverly Shoal, which was not a menace except to ships of 12 ft. draught or over, and this shoal was readily avoided by holding up within three miles of Pilot Island, (well named).

Rock Island passage has a minimum width—Testimony of Col. Martin, 2⅜ miles. This, however, is not the effective width since the passage is made at an angle so that upon the course given through this passage a vessel is menaced at one point by an unmarked shoal within one-fourth mile to the south.

Nor is there any natural pilot such as Pilot Island to furnish a bearing from which to set a course through this passage, but rather a set of dangerous reefs to receive the approaching vessel.

Fisherman's Shoal and Fish Island Shoal submerged

three miles off shore are both a menace to any craft approaching Rock Island from Lake Michigan. They were practically unknown until 1863 and were unmarked until 1878. They surely would have been known had there been any considerable traffic by this route.

To the north of Rock Island, and squarely in the opening between Rock and St. Martin's was the nine foot shoal unknown until 1863, and unmarked until 1878.

The hazards of the Rock Island passage continue for a distance of 10½ miles as against the 1 mile through the Door.

Upon the mere question of hazards a careful mariner approaching Rock Island before the days of modern lights and buoys, would bear off to Pilot and take the Door passage or up through the St. Martin's passage, depending on his destination, but this will come later.

Improvements

While the present aids to navigation are too recent to have any bearing on which channel was most used in 1838, they have a bearing upon the subject above since they indicate the necessities of the situation.

The Door

A light is maintained on Pilot Island to guide to this passage. It has a fog signal with a range of 40 miles.

Range lights—two lights in line, on Plum Island make the passage easy.

A Coast Guard Station is maintained on Plum Island indicating the vicinity of considerable vessel travel.

Rock Island Passage

Pottowatomie light marks the northerly headland of Rock Island.

St. Martin's light guides through the St. Martin's passage and marks a bearing point with Poverty Island light and Pottowatomie for finding the:

Channel Buoy which marks the entrance to this passage, must be found and an exact course sailed to make the passage in safety.

A flashing can buoy on the outer edge of Fisherman's Shoal warns of that menace in the channel.

A Buoy on St. Martin's or 9 foot shoal warns of the menace in the channel. A proper use of all these aids to navigation is necessary and until their establishment the passage was hazardous.

Old Lights

In 1836 there were no lights or aids to navigation at this point unless the old Plum Island Light was in operation at that time.

There had been an appropriation for a light on Pottowatomie Island at the entrance to Green Bay.

There is no record of the building by the Government of any light in this region before Pottowatomie Light on Rock Island in 1837.

There is, however, no record at all of the old light on Plum Island.

That such a light was in operation about that time cannot be doubted, Exhibit 126, pictures the ruins—birch trees fifty years old within them.

Captain Peterson saw the ruin in 1870. (R. pages 2-7.)

Fred Richter had seen the ruins, and knew it for a

lighthouse; he had lived on the island 62 years and it was not lighted in his lifetime. (R. page 18.)

Captain Betts knew the names of the keepers and their vicissitudes, and that it was a guide through the Door and discontinued when Pilot Island light was established in 1850. It was burning when he sailed through the Door in 1845 enroute to Chicago to Peshtigo by schooner. (R. pages 27-8.)

He also indicated there was some mistake about Pottowatomie Light—should have been on Boyer Bluff or some other place.

We find in 1836 no lights unless old Plum Island Light.

In 1837 Pottowatomie was built.

A brief study of the charts and the facts above, indicate that even were there no light in the Door, the establishment of Pottowatomie Light did not change the situation, since it alone was totally insufficient to make the navigation of Rock Island passage even practical.

Tradition

Striking directly at the issue "Most usual ship channel" there are in evidence innumerable historical articles as well as the testimony of many witnesses upon the subject.

The most direct is that of the Cota's, daughter and grandson respectively, of a pilot engaged on the passage from Green Bay—the settlement to Lake Michigan in 1836. The mother had known of the route from her father's telling and the grandson had been shown the route by his grandfather as a part of his education as a sailor.

The Door and Strawberry Passage was the only course extensively used.

These witnesses are Indians who spent their entire life in the vicinity and now live in Door County, Wisconsin.

The same reasons which attracted the heavy lumber shipping of the seventies and eighties to the Door instead of Rock Island, would apply to the shipping of the earlier days and a comparison of that shipping from the testimony of the many witnesses on the subject is about fifty to one in favor of the Door.

What these witnesses had heard of travel in those days "it was all through the door."

The door was the shortest route, the least hazardous, the most easily made perfect and was in fact the one most used in 1836, just as it was later.

The information and directions given in the mariners handbooks is of some value. They are very similar and a synopsis of the most complete is here given.

Plaintiff's Exhibit 180, Extracts from "Barnet's Coast Pilot," as published for the years 1867, 1871, 1872, and 1874, corresponding pages of each issue being included to indicate the increasing knowledge of the situation. This exhibit is offered to explain and amplify the defendant's exhibit, from the same book. Particular attention is called to the facts shown by the exhibit, that in the issue of 1867, while directions are given through the Rock Island, passage, only on a route from Cat's Head Point to Escanaba, sailing directions are given for three routes through the Door, extending from the north to the south in the lake, and that Louse or Rock Island is said to be north side of the channel of the entrance to Green Bay.

That Pottowatomie Light, on Rock Island, is on the north side of the entrance to Green Bay, is clearly stating the Door as the entrance.

In speaking of the Door, it says Pilot Light is given as a guide to the south entrance of Green Bay, further stating that *the old lighthouse stands on Plum Island.* Accurate sailing directions are given for the Door passage and in the instructions for the passage through Rock Island, no sailing directions are given (p. 14) but pp. 20 and 21, warnings are given of the shoals in the entrance and sailing directions are given for the St. Martin's passage and for the Strawberry passage, within the Bay.

On page 23, sailing directions from Pottowatomie Light to Bay de Noque, laid out as given, will be found to pass through the St. Martin's passage and on that page the directions for the trip from Chicago to Green Bay by the Door, refer to the information given on the prior page for the Strawberry passage, and warns of Whaleback shoal on the western passage in the Bay.

On page 24, variation at the Door is given and the anchorage in Strawberry passage, the distance is also given from the Door to various points within the Bay.

In the issue of 1871, the following changes are noted: On page 1, there are no routes given through Rock Island passage. Page 14 corresponds to page 16 and is unchanged. 20 and 21 correspond to page 22, which now for the first time gives sailing directions for the Rock Island passage, which on study will be found to be impossible to follow, except in daylight. It also gives sailing directions for the passage west of Chambers Island, but from a brief examination of the chart it will be found that following the sailing directions given for that passage, would almost necessarily result

in disaster upon the shoal north of Chambers Island, which is not mentioned in the sailing directions, the course being laid over to the shoal. Pages 24 and 25 corresponding to the old page 23, shows a mark upon Whaleback shoal of the second class iron can Buoy, (no light or fog signal).

In the issue of 1872, appears the first mention of lights on page 8, Pilot Island, a guide for the Door passage, is shown to have a fog whistle and attention is called to the old light on Plum Island as well as the anchorage, sailing directions for the passage are given and there are no warnings of shoals on this course.

Pottowatomie Light is again mentioned as being on the north side of the entrance to Green Bay, no fog signal is mentioned. It is given as the guide through the passage of Rock Island and St. Martin's Island, and warning is given of the shoal in the entrance, and the shoals in the channel.

This issue also describes Chamber Island light, and for the first time gives information of reef running west from the north end of Chambers Island, warning of Whaleback shoal and Point Rochereau. There is comment that strangers should not attempt a passage east of Chambers or between it and the Strawberry, which undoubtedly was meant as a warning against attempting a channel between the Chambers Island and the strawberry only, as elsewhere in the publication is a complete description of the Strawberry passage with its many harbors and complete sailing directions. The information on this subject, page 24, being considerably increased from former issues and more favorable.

In the issue of 1872, on page 28, further favorable information is given on the Door passage, and also

description of Poverty Island passage, with sailing directions.

In the issue of 1874, Green Island light is added to the list of lights with the statement that the best channel down to the bay is to the eastward of same.

There is a further statement in this issue that Washington Harbor, on the north end of Chambers Island, is headquarters for the fishermen.

The directions for sailing the Strawberry passage are unchanged, except for further information in regard to harbors, and for the first time appear in the book, directions for sailing north of the Beaver Island group.

The original sailing directions on the Rock Island passage are unchanged, and would still be impossible, except in daylight, and in this issue for the first time appear directions for entering the harbor at Fox River, Green Bay.

Strawberry Passage or Western Channel

The passages present a choice to vessls passing up or down Green Bay between the entrance and Southern Bay ports.

Physical Advantages: Distance

The element of distance again enters and to any vessel bound or leaving a port south of Menominee the Strawberry passage is the shorter. Testimony of T. R. Hasely.

Hazards of Navigation

The Strawberry Channel proper is the short passage between the large Strawberry Island and Eagle Bluff on the Door County mainland—for a distance of less

than a mile the navigable channel narrows to 1⅛ miles. There are no shoals in the channel and the headland is a perfect landmark. The entire Door County Peninsula consists in fact of a high bluff with prominent headlands every few miles so distinctive in character as to form a perfect guide for the mariner even on a dark night (Testimony of E. V. McComb, A. E. Henes, James Alger, Capt. Clow)

It was this fact added to the saving in distance which made this the most used passage.

After entering the Bay, sea room is an unknown thing and a vessel may not drive ahead on dead reckoning except by bearings on either shore.

Except in darkness or the thickest weather, both sides of the bay are visible to any vessel on it.

The East shore a continuous row of distant headlands with deep water.

The West shore a low lying beach without distinctive marks and with shoal water many miles from the beach, in the case of Peshtigo Shoal, 6 miles or nearly one-half of the width of the Bay.

After entering the Bay the Strawberry passage could be negotiated by coasting the East shore. What shoals and reefs existed were avoided by their relation to the islands, i. e., directly north and south of the Strawberry and not in the course.

A perfect harbor with good wood supplies every few miles and deep water close to the headlands made the passage easy.

The Western Passage presented other questions.

From Chambers Island to the Michigan shore is a distance of six miles, but from the low lying Michigan shore for over a mile the water is too shoal for any vessels.

In thick weather a vessel would ground before the shoreline would be visible and hence this shore must be avoided.

To enter this western channel from the entrance to the Bay, Whaleback Shoal, a submerged unmarked reef near the middle of the Bay and Northwest of Chambers Island, must be avoided on the right, while on the left, the unmarked shoals to the north of the Strawberries and the Frying Pan Shoal almost directly on the course must be left to port.

In the passage a reef making out one-half mile from the most western promontory of the Island menaced on the port while the shoals on the Michigan side menaced on the right.

On passing Chambers Island, the Peshtigo Shoal blocked all passage on the Western side of Green Island except a very devious route.

Green Island thrust out three rocky reefs and the course must angle back to the East shore north of this island.

The water between Chambers and Green Island is the most unprotected and is a middle ground for all currents in the Bay. The most dangerous spot in the district because of the currents, the choppy or broken seas, and the lack of any near protection in case of trouble. It was the scene of the Hackley disaster (History of Door County) and to be avoided. (Testimony of McComb, Henes, Alger and Clow.)

A brief study of the chart will indicate that the western passage was a detour—longer—between unmarked shoals and with no advantage over the Strawberry passage except for a vessel bound to Menominee. Menominee was not in the picture in 1836, or to any extent until 1864.

Public Improvements

The Eagle Bluff Light and a channel buoy directly in the center of the Strawberry channel, now make this passage easy. Chambers Island and Green Island lights being unnecessary but adding an extra landfall for the passage.

The entrance to the Western passage is now guarded by buoys on the Whaleback and Frying Pan shoals, the latter unlighted.

The passage itself is between the Chambers Island and Menominee Lights, the latter being range lights, and thence back to the East to avoid Green Island, lighted, and Peshtigo Reef, marked by a lightship six miles from land, and the course being further determined by a bearing on Sherwood Point Light at the entrance to Sturgeon Bay, opposite Peshtigo Reef.

The opening of the Sturgeon Bay Canal has of course upset many of the courses prevailing in 1836, but the Strawberry passage still is the most usual passage for vessels bound from southern Bay ports out through the islands.

The First Improvements

were the Eagle Bluff and Chambers Island Lights, 1868.

The first was all that was necessary for the Strawberry passage, the channel buoy being a very recent and scarcely necessary aid.

The Chambers Island light was a start in the right direction, but the Western passage was not sufficiently lighted until the establishment of Whaleback—menomimee—Green Island, and Peshtigo Reef Lights.

Remembering that travel largely was from Green Bay to the Lake, it becomes quickly apparent that the East shore was coasted by the Mackinaw boats which found almost continuous protection up thru the Strawberry passage.

In fact no mention of the western passage is found in any of the historical articles until the Journal of Douglas Houghton, reports an exploring trip to the mouth of the Menominee, and even he returned by way of the Strawberry passage and the Door, Little Detroit.

The steamer met by the Houghton party was in the Strawberry passage, and the schooners followed the Mackinaw boats when traffic became heavier, all used it. (Testimony of the Coats, James Lyon, James Alger. R. pages 96-279-301.)

In fact until the settlement in Menominee brought sufficient traffic to call for a light on Chambers Island —the Strawberry Passage was practically the only one used and it continued to be the most usual and still is, being used today by the Goodrich steamers, and the coalboats between Green Bay and the East, as well as all pleasure craft.

The settlement of the East shore harbors before Menominee is a further indication of where the travel was.

Without exception the historical articles bearing on the subject describe the passage along the East shore (see description of the egg battle at what is now Egg Harbor) and the only present use for the Western passage is by freighters from Menominee bound thru the Door or from Escanaba thru the Sturgeon Bay canal.

In support of Plaintiff's claims that the Door and Strawberry passage were the most usual ship channel in 1836, it appears that they are now and always were so because they constitute the shorter-safer route for the greatest amount of traffic and further that this route was naturally followed because it was known and used by Indians who passed on their knowledge of it.

If these channels be the most usual in 1836, then the boundary should be along the center of them (described by T. R. Hasley) and the Government description on Rock, Washington, Detroit, Plum, Chambers, and the Strawberry Islands were wrongfully returned to Wisconsin for taxation and should be surrendered to Plaintiff.

APPENDIX "A"

List of Exhibits showing "Lake of the Desert."

Plaintiff's Exhibit 1:

Mitchell map of 1755.

Legend "River and Lake of the Desert" in Mississippi drainage.

Plaintiff's Exhibit 5:

Farmer's Map of 1830,

Legend "Lac Vieux Desert," drainage to Southwest.

Plaintiff's Exhibit 6:

Burr's Map of 1836,

Legend "Les Lac Vieux Desert."

Group of Six lakes draining all three ways—to the Mississippi, to Lake Superior, and to Lake Michigan.

Plaintiff's Exhibit 8:
Tanner map of 1836,
Legend "Lakes of the Desert", grouped as in Exhibit 6.
Plaintiff's Exhibit 9:
Another Burr map of 1836,
Legend "Lac du Vieux Desert." Group draining as in Exhibit 6.
Plaintiff's Exhibit 59:
By J. Calvin Smith, 1840.
Legend "Lake of the Desert."
One small lake at the head of the Montreal similar to the one in Group on Exhibits 6, 7, 8.
Defendant's Exhibit 113:
Canadian Map, 1756.
Legend "Lac des Vieux Deserts" draining into Mississippi.
Defendant's Exhibit 114:
Same 1763.
Legend same.
Defendant's Exhibit 115:
Same 1755.
Defendant's Exhibit 116:
Canadian map 1720.
Legend "Lake of the old Desert" drainage into Mississippi.
Defendant's Exhibit 117:
Canadian map 1763.
Legend "Desert Lake." Drainage into Mississippi.
Defendant's Exhibit 118:
Canadian map 1755.
Legend "R and L of the Desert." Drainage into Mississippi.

Defendant's Exhibit 131:

Farmer's Map of Wisconsin Territory 1829.

Legend "Lac Vieux Desert." Drainage into Montreal.

Defendant's Exhibit 134:

Burr map 1841 or earlier.

Legend "The Lakes." 5 lakes in group.

Indian village on southernmost lake; draining into Wisconsin River. (Present Lake Vieux Desert.)

"Lac Vieux Desert" on most northerly draining into Montreal. (Present Island Lake or Pine Lake).

Defendant's Exhibit 141:

Nicolet map 1843.

Legend "K etti Kittigan or Vieux Desert L".

Drainage into Wisconsin river.

Defendant's Exhibit 142:

Gray map 1846.

Legend "Lake of the Old Gardens of Lac Vieux Desert."

APPENDIX "B"

List of Exhibits indicating that Strawberry Passage and Porte des Morte were the "most usual ship channel."

Plaintiff's Exhibit 5:

Farmer's Map of 1830.

Indicates nearly correct knowledge of these passages and incorrect as to balance.

Plaintiff's Exhibit 12:

Tanner Map of 1839.

Accurate as to these passages—inaccurate as to Rock Island passage or western passage.

Plaintiff's Exhibit 43:

Map of Public Surveys in Wisconsin in 1846. Same condition as to knowledge of the other channels.

Plaintiff's Exhibit 57:

Historical Articles telling of use of east shore.

Plaintiff's Exhibit 59:

Smith Map 1840 still inaccurate as to other passages.

Plaintiff's Exhibit 83:

Schoolcraft memoirs, showing travel up east shore.

Plaintiff's Exhibit 93:

Schoolcraft Journal showing trip thru Strawberry Passage and Death's Door (Petit Detroit) in 1836 and meeting Steamer in Strawberry passage — see Testimony, Record p. 397.

Plaintiff's Exhibit 97:

Sketch from the Survey under Cram in 1842, of Porte des Morte and Strawberry passages.

Plaintiff's Exhibit 98:

Report of the above survey.

Plaintiff's Exhibit 99:

First Chart of Rock Island passage dated 1864, from survey of 1863. This chart does not disclose St. Martin's or 9 ft. shoal in the passage (see Exhibit 115.)

Plaintiff's Exhibit 100:

First Chart of Passage West of Chambers Island, dates 1864, from survey of 1863.

This chart does not disclose thereof making west from Chambers Island shown on Plaintiff's Exhibit 116.

Plaintiff's Exhibit 101:

Chart of West Coast of Green Bay, survey of 1865, showing last mentioned shoal for first time.

Plaintiff's Exhibit 102:

Chart of Entrance—survey of 1864, revision of 1905; first indication of St. Martin's or 9 ft. shoal in Rock Island, (this shoal had been first mentioned in Sailing Directions 1873) is marked by a buoy the date of establishment of which is not of record.

Plaintiff's Exhibit 114:

Latest Chart of Entrance.

Plaintiff's Exhibit 115:

Latest Chart North End of Green Bay.

Plaintiff's Exhibit 116:

Latest Chart South End of Green Bay.

Plaintiff's Exhibit 117:

Pages from folder of Goodrich steamship lines, 1924, showing use of Strawberry passage.

Plaintiff's Exhibit 188:

Extracts from "Sailing Directions for Lake Michigan, Green Bay, and Straits of Mackinac" 1906, by Hydrographic Office, U. S. N.

Plaintiff's Exhibit 119:

Extracts from "Scott's New Coast Pilot" 1886. Sailing Directions from Chicago to Green Bay via Death's Door.

Plaintiff's Exhibit 124:

"History of Great Lakes," 1899, showing Green Bay as only important port in early days.

Plaintiff's Exhibit 126:

Photographs of ruins of a lighthouse on Plum Island.

There is no record of the establishing of any government lighthouse in Porte des Morts until 1848, an appropriation was made for that purpose, the resulting light on Pilot Island going into operation 1850.

From the Photographs some idea of the age of the ruins can be had. Capt. Peterson testified that he saw the ruins in 1870, Record p. 2. Capt. Betts saw the light burning 1845 and knew the name of the keepers and that it was discontinued in 1850 when Pilot Island light was built. Record p. 27-30.

Plaintiff's Exhibit 127:

Photographic view across the Channel "Porte des Morts."

Plaintiff's Exhibit 128:

Extracts from History of Door County showing travel by these passages.

Plaintiff's Exhibit 134:

Extracts from "Centennial History of Menominee County" showing its importance as a port began in the sixties.

Plaintiff's Exhibit 155:

Showing an early trip through these passages.

Plaintiff's Exhibit 156:

Same.

Plaintiff's Exhibit 163:

Same.

Plaintiff's Exhibit 180:

Extracts from "Barnet's Coast Pilot" for years 1867-71-72-74, showing original knowledge of these channels and growth of knowledge of the others.

RECONCILIATION

At the time this case was presented on motion, a map by Tanner, found in the Library of Congress, (Plaintiff's Exhibit 12), was supposed to bear date

1830. This map like the Judson map, showed a continuous water boundary.

Because of this Plaintiff took the position, Paragraphs 2 and 5 of the Bill, and page 4 of Brief on Motion, that the Senate Committee in 1834, believed there was a continuous water boundary.

Being further led to this conclusion by the report of Capt. Cram which assumed that Congress had been so mistaken at all times.

Testimony of Col. Martin, pages 661-662, the production of a different map by Farmer in 1830, not showing these conditions (Defendant's Exhibit 13) with a further study of the date on Exhibit 12 seems to indicate that 1839 is the correct date on Exhibit 12.

If it were 1839 the result is merely to indicate that Congress was at no time mistaken upon the subject of a continuous water boundary.

It now appears that no map showing a continuous water boundary existed before the Judson map of 1838.

Plaintiff has always claimed that Congress was not so mistaken at the time of the passage of the Michigan Enabling Act and hence the question is merely academic.

MICHIGAN'S CONSTITUTIONS

Michigan's first constitution (1835) did not contain a description of her boundaries. This constitution was adopted prior to the act of Congress giving Michigan statehood.

The constitutional convention that framed the constitution of 1850 faced the importance of stating a description of the boundaries varying somewhat from that in the Michigan grant, because Capt. Cram had reported that Lac Vieux Desert was the lake which

Congress called Lake of the Desert and which Capt. Cram reported Congress thought was at the head of the Montreal, and because of his report that the same was an essential point in the boundary. Wilderness continued to reign supreme in that part of the country and the convention had the right to believe and had no reason to disbelieve the Cram reports. Therefore in providing the description of the boundary in the constitution because of the misinformation which those reports contained, the line of the boundary was deflected from that described in Michigan's grant to the extent that in leaving the headwaters of the main channel of the Montreal river the constitutional description of the boundary was made to run to Lac Vieux Desert and then to the head of the Brule, instead in a direct line from the head of the Montreal to the head of the Brule.

The description in the 1850 constitution is as follows:

> "* * * * thence through the middle of the main channel of the said River Montreal to the head waters thereof; thence in a direct line to the center of the channel between Middle and South Islands in the Lake of the Desert; thence in a direct line to the southern shore of Lake Brule; thence along said southern shore and down the River Brule to the main channel of the Menominee river; thence down the center of the main channel of the same to the center of the most usual ship channel of the Green Bay of Lake Michigan, thence through the center of the most usual ship channel of the said bay to the middle of Lake Michigan. * * * *"

This convention had no power to surrender property. On the other hand, its positive declaration as to the right of the State negative acquiescence in Wisconsin's claims to a large portion of the boundary, for it follows exactly the description in the Michigan grant

through the Montreal, Brule, and Menominee rivers and Green Bay.

The constitution adopted in Michigan in 1909 contains the following description:

> "* * * * thence through the middle of the main channel of the westerly branch of the Montreal river to *Island Lake,* the headwaters thereof; thence in a direct line to the center of the channel between Middle and South Islands in the Lake of the Desert; thence in a direct line to the southern shore of Lake Brule; thence along said southern shore and down the River Brule to the main channel of the Menominee river; thence down the center of the main channel of the same to the center of the most usual ship channel of the Green Bay of Lake Michigan; thence through the center of the most usual ship channel of the said bay to the middle of Lake Michigan. * * * *"

By that convention all possible theories were negatived so far as could be with the knowledge of the situation then at hand. The convention was exactly in the same situation as the convention of 1850 as to the knowledge of the country; except as to the one discovery that the east branch of the Montreal river instead of the west branch had been used as the boundary and that the claimed boundary stopped short of following even the east branch to the lake at its head The convention with that knowledge, but still relying on Capt. Cram's report that Lac Vieux Desert was an essential point in the boundary, emphasized the fact that the west branch of the Montreal with Island Lake at its head, was the main channel and a part of the boundary. Because of lack of knowledge and misrepresentations, the line was then deflected to the Lake of the Desert, instead of taking the direct line as provided in the grant.

It was not until the Michigan boundary Commission was appointed in 1919 that the true facts were discovered concerning the errors of Capt. Cram and the knowledge possessed by Congress in laying down the original grant. It then became known through an examination of those maps that Congress knew that the lake at the head of the Montreal river was one of the Lake of the Desert.

A reading of the boundary descriptions found in the Michigan constitutions indicates clearly two things: first, that the officials of Michigan were endeavoring as best they could to describe a boundary that would conform with the boundary intended by Congress, and, second, that the knowledge gained by the officials of Michigan can only be construed as overcoming any acquiescence in any boundary line except the one in the original grant.

DAVIS REPORT—*Defendant's Exhibit No. 380.*

The defendant's request that Exhibit No. 380 and the attached extracts from the Journals of the Michigan Legislatures be printed in the Record indicates that Wisconsin relies on that exhibit as an important fact in the case. Because of that and the stipulation concerning the report on page 1012 of the Record, we deem it advisable to discuss the facts in that connection and their relevancy.

On May 29, 1907, the House of Representatives of Michigan adopted a resolution in which the following language appears:

> "That the Attorney General of the State be, and hereby is, authorized and directed to cause a survey to be made of so much of the boundary line

between the said states as is claimed to be incorrect, and to institute the necessary proceedings in a court of competent jurisdiction or otherwise to secure a determination of the correct boundary line between the State of Michigan and the State of Wisconsin."

On June 4, 1907, the House was advised that the Senate had concurred in the adoption of that resolution.

On May 5, 1909, Hon. John E. Bird, then the Attorney General of Michigan, wrote a letter to the chairman of the Senate Committee on State Affairs, advising him that he had engaged the services of Prof. J. B. Davis, and that.

> "* * * * we have made such investigation as enable us to place before the Legislature a complete history of the legislation and directions of the War Department leading up to the location of the present line, together with a large number of other facts obtained from a personal investigation and inspection of the line.
>
> It is not quite clear from such resolution whether it is the desire of the Legislature that I should add to this history my conclusions, legal and otherwise, upon the facts found. If such be the desire of the Legislature, I suggest that you so indicate by a resolution. * * * *"

On May 11, 1909, the Senate adopted a resolution containing this language:

> "* * * * That the Attorney General be and is hereby directed to add his conclusions of law and fact upon the record so compiled by him; to procure copies of such maps and add to his report as he deems advisable to make the situation more easily understood, and to cause the same to be printed and submitted to the next session of the Legislature."

On May 12, 1909, the House concurred in the Senate resolution.

The report of J. B. Davis appears to have been signed by him and bears the date 1909-4-1. It is therefore apparent that the investigation made by Prof. Davis was completed before April 1, 1909.

The stipulation (Record page 1012) contains this language:

> "And that so far as Judge Bird formed any conclusions on the subject, they were those of the Davis report."

John E. Bird, was appointed to the Supreme Court bench in the State of Michigan and resigned as Attorney General June 6, 1910. He never filed a report with the legislature of this State nor was any report ever filed by his successors in office.

The so called Davis report never became a public document. The most that could be said for it was that it was a private memoranda of certain investigations made by a privately employed agent of the Attorney General. The original engagement of the Attorney General was that he was authorized and directed to cause a survey to be made of a certain portion of the boundary, etc. The legislature did not direct the Attorney General to employ agents to make an investigation of the facts involved. The only report required by the legislative branch of this State was the report mentioned in the Senate resolution of May 11, 1909. This of course was never done.

It will be apparent from an examination of the Davis report that Davis made only a superficial investigation of the controversy involving the Montreal section of the boundary. His report contains some of

the Act of Congress; some of the Acts of the legislatures of the two States; some of the maps; and some of the historical letters and papers which throw light on this controversy. It will not be claimed that Davis collected all of the relevant data available. The record and exhibits in this case overwhelmingly controvert any such claim.

Nothing in the report indicates that Davis made a survey of the portion of the boundary then under consideration. It does not even appear that the conclusions and findings of fact embodied in this report were the result of personal observations or investigations of Prof. Davis. On the contrary, he speaks in the report and copies verbatim from letters written by H. L. Fruend, whom Davis designates as his "helper". Of this man, Fruend, nothing is known. Even Davis does not suggest that Fruend's report is reasonably comprehensive and accurate.

The Davis report was not binding on the Attorney General. It is quite possible that the Attorney General might have recommended to the legislature that a suit be brought to finally determine the boundary notwithstanding any adverse delineation of facts suggested by Davis or his helper.

We fail to see by any possible interpretation of exhibit 380 how the Attorney General was bound—much less the State of Michigan. The Attorney General never made any report to the legislature body of this State and it is beside the question to say what that report would have contained had it been made.

We therefore respectfully submit that exhibit 380 has no probative value in this case; that it is a self-serving document prepared by some person or persons with no official engagement from the legislature of this

State; that is is a privileged communication from a private employee of the Attorney General; that it is not a public record and was never intended to become public; that it was of no binding force or effect on the Attorney General or the State of Michigan.

MICHIGAN HAD THE RIGHT TO BE AT EASE.

Congress recognized that the United States could not again grant what it had already granted to Michgan and because of the possibility of a conflict as to the Michigan boundary a proviso was inserted in the Wisconsin Enabling Act providing:

> "That the adjustment of the boundary as fixed by this act between Wisconsin and Michigan shall not be binding on Congress unless the same shall be ratified by the State of Michigan on or before the 1st day of June, 1858."

It must be clear from this that it was then recognized by all parties that Wisconsin's grant would not be effective as to such territory as should be found to be within the lines of Michigan's described boundary unless Michigan ratified the Wisconsin act within the time specified. Because of this provision and because of the said several reports, Michigan had the right to believe that the Wisconsin line was little if any different from the Michigan line, and that Wisconsin would yield to the Michigan line, in case of differences being discovered, unless Michigan gave way to Wisconsin, by ratifying the Wisconsin line within the specified period. No such ratification was asked or granted, and so Michigan had the right to believe Wisconsin was respecting and acknowledging Michigan's rights.

Thus, all the claim that Wisconsin then made to any

of the territory which is involved in this proceeding was *under her grant* of August, 1846, *subject* to Michigan's right under her prior grant of 1836, unless Michigan should waive that right *within the specified time.* Not having secured the waiver the grant to Wisconsin did not become operative as to the disputed tracts. May 29th, 1848, within the period when Wisconsin was privileged to get Michigan's ratification, Wisconsin was admitted into the Union with boundaries as described in her enabling act; that is subject to Michigan's prior grant, in any point where the boundaries conflict, unless Michigan's ratification should be secured. Thus again we have Wisconsin assurance or respect for Michigan's boundary when Wisconsin accepted Statehood May 29th, 1848; Michigan had the right to feel secure.

Furthermore, Wisconsin's grant of Statehood was upon her having adopted a constitution.

In that constitution she expressly states,

> "that the State of Wisconsin doth consent and accept of the boundaries prescribed in the Act of Congress. * * *"

and there describing her enabling act, and following with a detailed description of the boundaries.

Here we again call attention to the *proviso* in the enabling act making the boundary subject to Michigan's and in that connection we call attention to the section of the Wisconsin Constitution next succeeding the one describing the boundary, which reads:

> "Section 2. The propositions contained in the act of Congress are hereby accepted, ratified and confirmed and shall remain irrevocable without the consent of the United States."

While there were other propositions contained in

the act of Congress, we claim that this section is broad enough to and does accept, with others, the provision was also accepted by Section 1, where the Constitution expressly accepts the boundaries described in the act, and which *as* described in the act were provisional. So that, aside from Michigan's knowing that she was entitled to priority and not knowing there was really any, but being advised there was none of consequence, Michigan had all these assurances of Wisconsin that Michigan's priority of right would be recognized in case the several boundaries should be found to conflict, Michigan had the right to be at rest.

One further feature of Wisconsin's Constitution of importance in this immediate connection is the fact that in the description of her boundaries through Lake Michigan and Green Bay, Wisconsin's boundary is described as running

> "with the boundary line of the State of Michigan."

Furthermore, it described her boundaries, after reaching the mouth of the Menominee River, as follows:

> "Thence up the channel of said river to Brule river; thence up said last mentioned river to Lake Brule."

It is an established principle of law where a river is named as a boundary, without other specifications, the center of the main channel is the boundary. Thus the Wisconsin Constitution described its boundary through Green Bay and through the Menominee and Brule Rivers as exactly in accord with the boundary as described in the Michigan grant, and now claimed by Michigan.

This was nearly two years after the Wisconsin enabling act provided for a *different* division of the islands in the river, if Michigan would permit it. Michigan had not permitted it. Michigan's right to the main channel of the two rivers, and to the "most usual" ship channel of Green Bay was unquestionable, and, therefore, by the language of Wisconsin's Constitution, Michigan was further justified in believing that Wisconsin was yielding to and would respect Michigan's boundary.

ACQUIESCENCE.

The position taken by defendant in its motion to dismiss, indicates that it will insist on the application of the doctrine of acquiescence or one of its kindred doctrines. For this reason the plaintiff here discusses such phases of that question as now seems pertinent.

Acquiescence is spoken of in Bouvier's Law Dictionary as follows:

> "The acts of acquiescence which constitute an implied election must be decided *rather by the circumstances of each case than by any general principle.*"

The construction given by this court to acquiescence clearly shows that there can be no acquiescence until there is knowledge of facts which will enable the party to take effectual action.

> "Acquiescence and waiver are always questions of fact. There can be neither without knowledge. The terms import this foundation for such action. One cannot waive or acquiesce in a wrong while ignorant that it has been committed. Sus-

picion and rumor are not enough. There must be knowledge of facts which will enable the party to take effectual action. Nothing short of this will do."

Pence v. Langdon, 99 U. S. 578 25 Law Ed. 420.

This action is between two political sovereigns whose existence and rights arise in the will of the people of the United States as expressed by Congress.

These two political bodies exercise jurisdiction over a tremendous territory and are constantly engrossed in problems of State.

The plaintiff asserts its rights under a clear, unequivocal expression of that will.

This dispute is over the frontier between these two states. A line througth territory still but sparsely settled, and to reach portions of which today involve great hardship, even the risk of life. (See testimony of George Rupp, Record page 170).

The most exacting employes of defendant have not even seen some portions of the area and others only since the suit was commenced.

Taxation and surveys are still incomplete.

The exact location of the line claimed to be acquiesced in is unknown in two sectors.

MONTREAL-VIEUX DESERT.

This is the only sector in which a line has been established. The Burt line was surveyed in 1848 according to the description in the Wisconsin Enabling Act. This description was based upon the erroneous report of a Federal Agent, that the Michigan grant was an impossible line.

This error was discovered in 1920, and this suit commenced as soon as practicable thereafter.

THE MENOMINEE-BRULE SECTOR.

In this sector there is no line today unless it be the one for which plaintiff contends in this suit.

It is the line described in the first law of each sovereign, the constitutions of the parties hereto, and it is as well, a line granted to plaintiff by Congress.

It was in connection with the discovery of the error as to the Montreal-Vieux Desert sector that the conditions in this sector were brought to plaintiff's attention.

The present condition is utter confusion. The defendant is in possession of some but not all, of the Islands in the Menominee River below the division point suggested by Congress in the Wisconsin Enabling Act. Plaintiff is in possession of other of these Islands, and still others are not now known to be, under the jurisdiction of either State, other than the profession of the respective constitutions as to boundaries.

GREEN BAY SECTOR.

No line has ever been determined upon in this sector. The grant to plaintiff is clear. The grant to defendant follows the grant to plaintiff. The only indication of any location of the line comes from the possession by the defendant of certain islands. This possession is the direct result of the actions of the same government agent who made the error in the Montreal-Vieux Desert sector. The actions of that agent, Captain Cram, in this sector are the best evi-

dence that such possession is wrongful. The result, however, was not apparent to plaintiff until 1920.

There was no official determination. Official action gave defendant possession of territory granted to plaintiff, and withheld from plaintiff knowledge of the existence of this territory which plaintiff had a right to expect from this official.

Through Captain Cram's survey of this region being returned to Wisconsin for taxation without locating the boundary; defendant obtained possession when government entries were made.

Plaintiff relied upon the Federal government to survey her land and to return to her for taxation all government descriptions within her boundaries, which by entry, became subject to taxation. Knowledge of plaintiff's rights in this sector first came in 1920.

However, it seems to be the rule that surveys made by the officials of the Federal government cannot take away any of the territory embraced in the original grant.

U. S. vs. State Investment Co., 264 U. S. 206.
New Mexico vs. Colorado, 267 U. S. 30.

APPLICATION OF THE RULE OF ACQUIESCENCE.

This court has held that the doctrine of acquiescence as applied, between two political bodies, is not in the nature of a bar.

It cannot be availed of to defeat a clear grant or to effect the establishment of a title which would subvert the will of Congress.

1. *It is available only so far as the lapse of time may tend to raise the presumption that a possible con-*

struction of a doubtful line was a proper construction, or,

2. *When an agreement or compact in regard to such line entered into by all parties was regularly made, even though the records fail to disclose its regularity.*

Neither of the above conditions are approached in this case in any sector.

The above doctrine is developed from the decisions in this court in the cases of

Louisiana vs. Mississippi, 202 U. S. page 1.
Virginia vs. Tennessee, 148 U. S. 503.
Rhode Island vs. Massachusetts, 4 Howard 591.

Other decisions of this court touching the question of acquiescence as applied between political bodies, can be distinguished from or conformed to the principles which were applied to these cases.

In the above cited case of Louisiana vs. Mississippi, the doctrine outlined under the heading *one,* clearly applies. The boundary therein questioned could be construed in accordance with the claim of Louisiana. Louisiana had been in control for more than fifty years with Mississippi's assent. The lapse of time and essent were considered as having served to place a construction on the otherwise questionable proper location of the boundary. Acquiescence was not permitted to defeat a clear grant.

In the above cited case of Virginia vs. Tennessee, the case falls squarely under the two doctrines above stated, the court making use of the doctrine of acquiescence to sanctify the compact entered into by commissioners of the two states and ratified by the legislature of both states.

In the above cited case of Rhode Island vs. Massachusetts, the principles involved as above set forth, are there fully discussed by the court. The question in that case was as to whether or not a commission acting under evident authority from both states, had made a mistake in construing the language of the grant on a point in relation to which the language of said grant was doubtful.

The grant to Massachusetts was the prior grant, and the language of that grant describing the line was

> "Three miles south of the Charles River, and the most southerly part thereof."

The question was asked as to whether this line should be three miles south of the most southerly point in the bed of the Charles River or three miles south of the most southerly point in any tributary of the Charles River. Both states appointed commissioners, who signed an agreement in regard to the line, which line was sanctioned by the plaintiff indirectly. Later new commissioners were appointed who also signed an agreement. This latter agreement being accepted by the General Assembly of Rhode Island and Massachusetts, and a joint commission appointed to run the line in accordance with agreement, which commission reported its inability to find a point named in the agreement, but claimed to have located the correct spot for the existence of that point.

After discussing the claims made by complainant, the court says:

> "*The Charter is of doubtful construction, and may, without doing violence to its language, be construed in favor of or against the complainant. IN THIS VIEW the construction of the Charter by Massachusetts, assented* to by the old colony of

Plymouth many, many years before Connecticut or Rhode Island had a political organization, *is an important fact in the case.* Plymouth was interested in restricting the lines to the calls of the Charter for the line constituted the common boundary between the two colonies. *And, as controversies had arisen respecting the boundary, and commissioners been appointed to settle it, the presumption is that the rights of both colonies were understood and respected in the establishment of the line * * * * IN THE ABSENCE OF PROOF THE PRESUMPTION IS NOT TO BE DRAWN THAT THEY SUPPOSED the line established was only three miles south of the river. Connecticut, after* the lapse of many years, assented to the line run from the Woodward and Saffrey station, as its boundary, *AND SO DID THE COMPLAINANT, in most solemn agreements,* as stated. *These proceedings conduce strongly* to establish a fixed construction of the charters, *favorable to respondent, UNLESS it be clearly made to appear they were founded on mistakes or fraud.*

Fraud is not charged, and we have only to inquire into the alleged mistake.

From the nature of this supposed mistake it is scarcely susceptible of proof.

The court, after further discussing the investigations made by the Commissioners, and the improbability of their having been mistaken, said:

"The dispute is between two sovereign and independent states. It originated in the infancy of their history, when the question in contest was of little importance, and *fortunately, steps were early taken to settle it, in a mode honorable and just,* and one most likely to lead to satisfactory result. *There is no objection to the joint commission in this case,* as to their authority, capacity, or fairness of their proceedings. An innocent mistake is all that is alleged against their decision.

> And, as has been shown, *this mistake is not clearly established, either in the construction of the Charter, or as to the location of the Woodward and Saffrey Station.* But, if the mistake were admitted as fully and broadly as stated in the bill, could the court give the relief asked by the Complainant?"

The court, then, after dwelling upon the fact that the *agreement* had been allowed to stand unchallenged for forty-one years when that opinion was given, said:

> "*The possession of the respondent was taken, not only under a claim of right, but that right,* in the most solemn form *has been admitted by the complainant* and by the other colonies interested in opposing it. *Forty years elapsed before a mistake* was alleged, *and since such allegation* was made nearly *a century has transpired.* * * * *
>
> It is not clear that the calls of the charter were deviated from by establishing the station of Woodward and Saffrey. But if in this report there was a deviation, Rhode Island was not the less bound, for its Commissioners were authorized to compromise the dispute. Surely this, connected with the lapse of time *must remove all doubt as to the right of the respondent under the agreements of 1711 and 1718.* No human transactions are unaffected by time. Its influence is seen on all things subject to change. *And this is peculiarly the case in regard to matters which rest in memory,* and which consequently fade with the lapse of time, and fall with the lives of individuals. For the security of rights, whether of states or individuals, *long possession under a CLAIM of title* is protected. And there is no controversy in which this great principle may be involved with greater justice and propriety than in a case of disputed boundary."

The case resolves itself into a statement of the law, that, the proper location of the described boundary

having been a matter of doubt, to the extent that the charter might, with reason, have been interpreted in accordance with the claims of either party, and the parties having by mutual agreement come to a conclusion on the line, and the line having been located accordingly, and Massachusetts having, for one hundred forty years after such agreement, claimed title under her charter and said agreement so construing it, with t he full knowledge and *express* assent of Rhode Island, the latter could not have relief. And in so holding, it was recited that the claimed mistake in the agreement had not been supported by proof, and that the court would presume that the Commissioners who made the agreement understood the facts and circumstances.

It is significant, in this connection, that, although holding that, in a case of doubtful interpretation, like the location of the Massachusetts-Rhode Island boundary, the agreement, together with long possession pursuant thereto would establish the line, the court also, in speaking of the claim of Rhode Island that the Charter of Massachusetts had been misconstrued, and that, properly construed, the line should have been run as Rhode Island was contending (page 633) said:

> *"If the words of the charter were clear and unequivocal in this respect, there would be great force in this argument. It would be DECISIVE of this controversy, unless controlled by other facts and circumstances in the case."*

Applying the last quoted statement by the court, to the instant case, it must be concluded that if the description of the boundary, as set forth in the Michigan Act of June 15th, 1836, is unambiguous, and should be interpreted in accordance with Michigan's claim, as to any portion of the disputed boundary, then, as to

that portion, *such construction "is decisive of this controversy,* unless controlled by other facts in the case."

Briefly comparing further the Massachusetts case with the case at bar, the court there stated that the river boundary contained an ambiguity. The language of the description might be interpreted to mean the northernmost point of the main channel of Charles River, or the most northerly point of a branch thereof, considering the branch a part of the river. In the case at bar the language is explicit, the country being new and the details not definitely known to Congress, Congress made the description explicit by specifying the *main channel* of the Montreal River. This left nothing ambiguous. It simply remained to establish which was the main channel. According to the record that has never been done. When Captain Cram surveyed the east branch he was not authorized to locate any part of the boundary. That was on his second trip when he was to make a map for the information of Congress, and he did not survey or report the main channel, as the record shows.

In the case at bar there is no ambiguity, and the errors and misrepresentations complained of are matters of record which have been recently discovered to be errors and misrepresentations. So it is clear that that case in no way supports defendant's theory of acquiescence by Michigan, but, on the contrary, is a substantial authority in support of the plaintiff's theory that the unambiguous line in a direct and positive grant cannot be modified by lapse of time or possession, and that even against lapse of time, equity will relieve as against mistake or fraud.

Other cases determined by this court have squarely

upheld the doctrine announced in the cases above cited. We do not deem it necessary to here repeat the facts in each case or quote at length from the opinion of this court applying the doctrine or establishing a rule for that particular case. Attention, however, is drawn to the following cases, wherein the question of acquiescence either by a possible construction of a doubtful line or a confirmation of an agreement or compact entered into between the parties defining the line, is discussed.

Virginia vs. Tennessee, 148 U. S. 503.
Arkansas vs. Tennessee, 246 U. S. 158.
North Carolina vs. Tennessee, 235 U. S. 1.
United States vs. Texas, 162 U. S. 867.
Maryland vs. West Virginia, 217 U. S. 41.

The area now in dispute is today exactly what it was when Congress defined it in 1836. It has not been changed by the War Department, the United States Land Office, the Legislature of either State, the map-makers and cartographers, the historians, civil engineers, geologists or civil authorities of either state; nor by the act of either state in taking possession of parts of the territory in dispute. It was firmly established by Congress, the only body having such original power; it could not be changed but with the concurrence of that same power.

The improvements within the area have been more than paid for by the taxes already collected from it by defendant. Its transfer to plaintiff means nothing to anyone except a change of jurisdiction. Such minor difficulties as may be occasioned by this transfer can be cared for by this court in its equitable jurisdiction.

There can be no acquiescence without knowledge, and knowledge was withheld from plaintiff, without its

fault, until shortly before the commencement of this suit.

There can be no acquiescence in a line which is not definite and certain. The doctrine can only be applied where lapse of the required time during possession up to a definite line has occurred. There is no such possession in this case, particularly in the Menominee-Brule sector, and in this respect a failure at one point would effect a complete failure, since acquiescence involves consent to a grant, and a grant which fails in any one point is incomplete and ineffective.

It is the very essence of title by prescription that the possession during the required period be hostile. A possession must be openly and notoriously against the right of plaintiff; such a possession as would amount to a *continuing notice* during the entire period with plaintiff's failure to act.

In the case at bar defendant's possession was not openly and notoriously hostile and against plaintiff's rights until 1920. Plaintiff had the prior grant. Defendant took claim to plaintiff's rights. No right of the plaintiff to any territory possessed by defendant was apparent to either party until the discovery of Cram's error by the boundary Commission in 1920.

The disputed area was never granted to Wisconsin, since its grant, so far as it might affect the prior grant to Michigan, was conditioned on ratification by Michigan.

Wisconsin cannot show title by prescription since her possession was not hostile for a sufficient period, if at all.

WISCONSIN'S POSSESSION WAS NEVER HOSTILE BUT IN THE NATURE OF A TENANCY AT WILL OR SUFFERANCE.

Wisconsin accepted a boundary conditional upon ratification by Michigan before the time for ratification had expired. This was done with full knowledge of the prior grant to Michigan, and of the fact that the line of said grant had been reported impossible.

It may well be held that Wisconsin entered into possession of any and all territory within the boundary of Michigan, with full knowledge of the prior grant and as a tenant at sufferance of the plaintiff.

To apply any doctrine of acquiescence or laches against the plaintiff is to charge the plaintiff with the knowledge in 1846, that the Michigan grant was a possible line. If the plaintiff be chargeable with this knowledge, surely the defendant is also, and in that event, defendant took possession, subject to Michigan's consent, of land, which defendant knew belonged to plaintiff. It is a well established principle, that one entering possession as a tenant, cannot thereafter change the character of its possession so as to claim adversely to its landlord. The taking of possession by Wisconsin prior to the period within which it was permitted to obtain the consent of Michigan to its grant, must be construed as a tenancy of sufferance, since Wisconsin took possession knowing that Michigan had the right to give or withhold the land. Such possession is inadvertent and could not become advertent under the general principles of law.

MICHIGAN NEVER RATIFIED THE WISCONSIN BOUNDARY GRANT.

Michigan was never asked to ratify and never ratified the boundary described in Wisconsin's Statehood act. Not having done so, neither Congress nor Michigan are bound by any territorial grants so far as the area in dispute in this case is concerned. Upon this point we respectfully refer to the opinion of Chief Justice Marshall in the case of *Doddridge vs. Thompson, 9 Wheaton, 476,* in which a similar point was explicitly passed upon. In that case the court said:

> "In March, 1804, Congress passed a law for ascertaining the boundary of the land reserved by the State of Virginia for military bounties, which enacts, 'that the line run under the direction of the Surveyor-General of the United States, from the source of the Little Miami towards the source of the Scioto, and which binds, on the east, the surveys of the lands of the United States, shall altogether with its course continued to the Scioto River, be considered and held as the westerly boundary line, north of the source of the Little Miami, of the territory reserved by the State of Virginia, between the Little Miami and the Scioto rivers, for the use of the officers and soldiers of the continental line of that state. Provided, that the state of Virginia shall, within two years after the passing of this act, recognize such line as the boundary of the said territory.' The line mentioned in this act is called Ludlow's line.
>
> This act shows, we think, very clearly, that Congress did not mean to assert a power to fix the western boundary of the military reserve. The deed of cession, and the act of acceptance, were considered as forming a contract respecting a territory, the western line of which could not, at the

time, be fixed with precision, and which was unavoidably described in terms requiring subsequent explanation and adjustment. This adjustment was to be made, not by one of the parties, but by both; and this act is an essay towards it. Congress makes a proposition to Virginia, by which the United States are to be bound, provided Virginia accepts it within two years. If it be not accepted within that time, the parties stand on their original rights, as if it had never been made. This is a very fair and equitable proceeding on the part of the government, and is founded on the idea that the rights of the parties are equal. Had Virginia accepted this proposition, it would have become a contract, and Ludlow's line would have been established as the western boundary of the military reserve; the land in controversy lying west of that line, would not have been liable to be surveyed to satisfy the plaintiff's warrant. But Virginia did not accept the proposition, and the rights of the parties remained as if it had never been made.

In 1812, Congress made another effort to establish this line. The President was authorized to appoint three commissioners, to meet commissioners to be appointed by Virginia, who were to agree on the western line of the military reserve, and to cause the same to be surveyed and marked out. Should commissioners from Virginia fail to meet them, they were to proceed alone, and make their report to the Executive. In the meantime, and until the line should be established by consent, Ludlow's line was to be considered as constituting the western boundary of the Virginia reserve.

The commissioners of the United States were met by those of Virginia, and they proceeded to ascertain the sources of the two rivers, and employed a Mr. Charles Roberts to survey and mark a line, from the source of one to that of the other. This line is called Roberts' line, is reported by the commissioners to the Executive, and is found, in the case agreed, to represent truly a line drawn from the source of the Little Miami to the source

of the Scioto. The Virginia commissioners, however, refused to accede to this line, and claimed to run from the source of the Scioto, a straight line to the mouth of the Little Miami, which would pass south of that river, and include a considerable tract of country not lying between that river and the Scioto. This demand prevented an agreement establishing Roberts' line; and as the act of June, 1812, provisionally designated Ludlow's line as the western boundary of the reserve, until one should be finally established, with the consent of Virginia, it remains the boundary for the present. Had the plaintiff's title been acquired subsequent to the passage of this act, there would be much force in the objection to it; but it was acquired before this act passed, and cannot, we think, be affected by it. Congress cannot have intended to annul, by a legislative act, a title which was valid at the time; and a law which does not express that intention ought not to have that effect given to it by construction. If the words of the act of 1804 were doubtful, which they are not, the act of 1812 would expound them, and show that not even a temporary boundary had been previously fixed. The appointment of commissioners to meet others to be appointed by Virginia, who were to agree upon and mark the true line, and the establishment of a temporary line till such agreement should be made, prove incontestably that Congress did not suppose the line to be established. Had the commissioners from Virginia assented to the equitable proposition made by those of the United States, the plaintiff's patent, founded on a survey made before that time, would be admitted to be unassailable. And yet the land was, in fact, within the territory actually reserved at the time the survey was made, and no law had been passed substituting any other line for the true one."

In *Reynolds vs. McArthur, 2 Peters, 417,* Chief Justice Marshall, delivering the opinion of this court, said:

"It has already been stated that the Act of 23rd of March, 1804, establishes Ludlow's Line, not absolutely, but on conditions that Virginia should assent to it; and that Virginia never did assent to it.

It has also been stated that in 1812, Congress authorized the President to appoint Commissioners who should proceed in concert with such as might be appointed by Virginia, to run a line which should constitute the western boundary of the Virginia military reserves. These Commissioners did meet and did cause a line to run from the source of the Little Miami to the source of the Scioto. This is called Roberts' Line. The Commissioners of Virginia did not assent to this line. Consequently it is of no operation."

CONCLUSION.

The plaintiff contends and we respectfully submit the record shows the following:

1. That Congress had before it a considerable amount of information showing the Lakes of the Desert to be a large group of lakes; that one of the lakes marked in that group was the headwaters of the Montreal River.

2. That Congress intended the Montreal and Menominee rivers as natural boundaries; that a straight line drawn between the headwaters of the two river systems would complete the boundary between the States.

3. That Captain Cram had in his possession the Judson map which erroneously showed both rivers—the Montreal and the Menominee—as rising in a large lake marked "L. Vieux Desert."

4. That Captain Cram thought that Congress was misled by that or a similar map.

5. That Captain Cram reported back to Congress that since there was no lake at the head of the Montreal river, the large lake he called Lake Vieux Desert must be the lake referred to by Congress—and therefore an impossible line had been defined.

6. That Captain Cram's error arose from erroneous information from Indians to the effect that there was no lake at the head of the Montreal river.

7. That Douglas Houghton, State Geologist, reported to Governor Woodbridge of Michigan, information he had obtained from Captain Cram, concluding that the line defined by Congress was an impossible line.

8. That several bills were introduced in Congress to redefine the Michigan boundary according to the recommendations of Captain Cram. None of these bills were passed.

9. That Congress in admitting Wisconsin to the Union in 1846 recognized a controversy in the Michigan boundary and provided that the Wisconsin line would not become binding unless the same "shall be ratified by the State of Michigan on or before the first day of June, 1848."

10. That Wisconsin never requested Michigan and never received in any manner or form any ratification by Michigan of the Wisconsin boundary grant; that Wisconsin's boundary line has ever since and today remains conditional.

11. That the area involved was first occupied by lumbermen who were indifferent as to the title to the land; that after logging operations were over the lands were considered only as wild and waste lands and until recent years in most portions have any considerable acreages been set up for taxation.

12. That even today Wisconsin is not exercising any jurisdiction over certain islands in the Menominee river and Green Bay.

13. That Captain Cram's error as to the Montreal sector were not discovered until 1907.

14. That Michigan attempted by legislative action in 1907 to negotiate with Wisconsin and if possible conciliate the differences then known to exist; that Wisconsin refused to arbitrate.

15. That Michigan tried in 1919 by the creation of a boundary commission to again settle the boundary and was again met by Wisconsin's refusal to confer or negotiate a settlement.

16. That the investigations carried on by the Michigan boundary commission further developed the errors made by Captain Cram; also advised Michigan for the *first* time that Congress had laid down in the Michigan grant, not only a possible line but had in fact there determined the true boundary.

17. That Michigan has not slept upon her *known* rights, has not been guilty of laches nor has she acquiesced in the conflicting claims of Wisconsin; that any occupation of territory by Wisconsin within the Michigan grant was solely because of misinformation given by Federal representatives, on which reports she did and was entitled to rely.

Finally, the attention of the court is called to the fact that the State of Michigan, in the spirit of sisterhood and union—the spirit which made the independence and greatness of this nation possible—has endeavored since 1907, when the true facts concerning one sector of this disputed boundary became known, to amicably adjust these differences with Wisconsin.

Repeated efforts met the same rebuff. Michigan lost valuable territory in the congressional settlement of the "Toledo War". Congress then sought to compensate Michigan for this loss by giving her territory south of Lake Superior. We are here asking only for the territory Congress *intended* we should have. A decree settling for all time such a boundary will conform to the intention of Congress and do justice to all interested parties.

We respectfully submit the record in this case justifies a decree as prayed for in the bill.

Respectfully submitted,

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State of Michigan.

APPENDIX 1

EXHIBITS PRINTED IN THIS BRIEF.

Plaintiff's Exhibit 179 reproduced opposite page 9 is a copy of the Burr map, which was attached to the report of judiciary map in the House of Representatives March 2, 1836, being a report on the Thomas Bill which contained the first language defining the boundary now in dispute. This map is offered to show the knowledge of the territory along the disputed line, in the possession of the draftsmen of the House of Representatives and the Judiciary Committee of the House, and especially to show that at about this date there was a considerable increase in knowledge in relation to this area, which resulted in the changing of the map, as will be seen by reference to the next exhibit.

Plaintiff's exhibits six and seven, are copies of the map which is Exhibit A of the Bill of Complaint, which is reproduced in the brief opposite page 9.

The map reproduced is an exact copy of the map, attached by Mr. Casey, of the Committee on Territories of the House of Representatives, to his report, and on this map are lines which do not appear on the two copies of the same map Exhibits 6 and 7. Exhibit 6 is a copy of the same map, and on it appears a blue pencil line indicating the boundary between Wisconsin and Michigan. This map was found among the private papers of Lucius Lyon, who was delegate to Congress in 1836 and was present at the committee meetings when the boundary was agreed upon. Exhibit 7 is another copy of the same map, on which the boundary line is connected in the exhibit, being a photostat copy

of the map on file in the Library of Congress. This exhibit is offered to show that at about this date information in relation to this area had been obtained from Mr. Henry Schoolcraft, whom it is shown, had appeared before the Senate Judiciary Committee on February 19th, for the purpose of imparting knowledge in regard to the geography of the Lake Superior district.

Exhibit 8. Tanner's map of 1836, being a current map at the time of the enactment by Congress, is offered to show the interchangeable use of the words, "Lake of the Desert", "Les Lac Vieux Desert", and "Lac Vieux Desert".

It will be noted that the district as depicted upon this exhibit is identical with the district shown as "Les Lac Vieux Desert" on Exhibits 6 and 7.

Plaintiff's Exhibit 175, which is Exhibit B of the Bill of Complaint, is a copy of the Judson map, a map of the entire territory of Wisconsin and Iowa, published by authority of general legislative assembly of Wisconsin in 1846. A copy of that map which was attached to the first report of Capt. Cram in 1840, and is the map which led Cram to believe that Congress had been misled by erroneous information through a similar map, and defined an impossible boundary. It is the plaintiff's position that the real cause for Cram's error was his possession of this erroneous map.

Plaintiff's Exhibit 59 reproduced opposite page. This map is by J. Calvin Smith, published by J. H. Cotton of the Merchants Exchange in New York in 1840. It is offered largely for the purpose of showing the location of a lake as the headwater of the Montreal River. The maker of this map evidently had be-

fore him, copies of maps (Exhibits 6 and 7) and applied the term "Lakes of the Desert" to the isolated lake at the head of the Montreal River which was the lake referred to by Congress in the Michigan grant.

Plaintiff's Exhibit 113, reproduced opposite page, is a sketch showing the location of the boundary in dispute and the territory involved under the various claims of the parties.

APPENDIX 2

LIST OF PLAINTIFF'S EXHIBITS

(With synopsis of their relevancy)

Exhibit 1: Map of British and French Dominions of North America—1755.

This map shows the River and Lake of the Desert, the Lake there draining into the Mississippi River. No Montreal River is shown although the Menominee is indicated as entering Bay of Puans—since Green Bay. The lower end of Green Bay is fairly accurately shown and the islands at the Port du Mort's entrance.

Exhibit 2: Proceedings of Congress on the bill to permit Michigan to become a State in 1834.

Showing that progress was blocked by the fact that the Judiciary Committee were considering the question of the northern boundary of Ohio.

Exhibit 3: Proceedings of Congress in 1836—

Showing the appointment of a Select Committee to consider the admission of Michigan into the Union, which reported the supplementary act for that purpose March 22, 1836.

Exhibit 4: Proceedings of the Convention which formulated the Constitution for the State of Michigan, May 11, 1835—

With boundaries the same as the Territory of Michigan.

Exhibit 5: Farmer's Map of 1830—

This map as to the islands in Green Bay is very accurate, as to the islands near Death's Door, and also

shows Chambers Island. On the map is a ship channel drawn from Beaver Island to the north of Washington Island up to the south of two other large islands unnamed, and considerably to the south of an island there called Brule. Another ship channel coming up from Chicago, the channel entering the southernmost passage named Petit Detroit. The draughtsman of this map evidently had information that in this southernmost channel was Washington Harbor and Port du Mort, but portrayed them inaccurately, and he also had information as to Eagle Harbor, which is fairly accurately placed upon the map. Sturgeon Bay with sand banks and Port Sable all on the route down through Strawberry Passage to Green Bay. The west shore of the Bay and its north end are entirely inaccurate. This map also shows Lac Vieux Desert draining into the Montreal and the Menominee headwaters very near to it.

Exhibit 6: Waterv'liet Map.

This is the map which Lucius Lyon brought back from Washington with him, at the time Congress was fixing the Michigan boundary in 1836, and on it is drawn the boundary up the main branch of the Montreal to the middle of the Lake, thence through the Lake Vieux Desert district to the foot of the lake draining into the Brule. It is also noticeable that this map is accurate as to the islands and harbors on the east coast of Green Bay, but totally inaccurate as to the west coast and the north end and the islands on the northerly portion of the passage.

Exhibit 7: Is the Same as Exhibit 6, but is a copy taken from the Library of Congress.

Exhibit 8: Tanner's Map of 1836—

As to Port du Mort and Rock Island Passage, both are shown. Washington Island and Rock Island are both shown on the map with a small island to the northeast of Rock Island unnamed which does not as a matter of fact exist. The map indicates Grand Traverse to the north of this and Port du Mort to the south of what is there called Pottawatomie Island and it is noticeable that north of Port du Mort there are two islands there placed and shaped as to correspond exactly with Detroit and Plum Islands as they now exist. It is further noticeable that Beaver Island and Manitou Island are accurately placed while the north shore of Lake Michigan is entirely inaccurate. An insert of the map shows Lakes of the Desert, the topography being copied from Maps 6 and 7, or at least identical to them. It is further noticeable that tables of steamboat routes are given showing the route from Detroit to Fort Howard—Fort Howard is what is now known as Green Bay—There is a mileage table showing steamers to stop at Great Beaver Island, Isle Brule, Chambers Island, Green Island and Port Howard. There is no island on this map called Isle Brule.

Exhibit 9: Map of Ohio and Indiana by David H. Burr, 1836.

On this map the group of lakes called Lac du Vieux Desert are well bunched and are all shown as tributaries of the Montreal, Ontonagon, Menominee, Wisconsin and Vermillion Rivers, respectively, differing from the Map Exhibit 6 and 7 in that the same draughtman in the later maps 6 and 7 later learned that the Lake from which the Montreal river drained was separated from the rest of the group and lay some

distance to the west. On Map No. 6 and Map No. 7 he also changed the terminology from Lac du Vieux Desert to Les Lac du Vieux Desert putting the word "Les" under the small lake at the head of the Montreal, a slight distance to the west of the group, whereas on the former map the entire nomenclature shows to the east of the entire group. There is no apparent alteration of these maps in regard to the location or description of the islands, except that in the earlier map Exhibit 9, a certain passage is marked "Port du Mort's" while in the later map he has the words "Isles of the Grand Traverse" and Port du Mort's Cape, indicating that he had received some further information in regard to these waters.

Exhibit 10: Extracts from, a speech in the Senate April 1, 1836, by James Buchanan.

Stating that Michigan had a right to form a Constitution and that when Michigan was admitted to the Union the boundaries of the Territory of Wisconsin would thereby be determined.

Exhibit 11: Copy of assent of the State of Michigan of the Act of Congress of June 13, 1836.

Exhibit 12: Map of the State of Michigan and Territory of Wisconsin, by Thos. R. Tanner, 1839, constructed principally from the U. S. surveys.

This shows the east coast of Greene Bay accurately from survey. Also Pottawatomie Island, Detroit and Plum Islands, the balance of the islands are inaccurately portrayed, except that the Chambers Island was evidently investigated although it is not included in the survey at that time. The Beaver, Fox and Manitou Islands are shown but not as they actually exist. A group of four lakes is shown called Lakes of the Des-

ert, the larger lake draining into what is called the Montreal River and Lake Superior, and two of the smaller ones draining into the Menominee River. A very heavy line evidently intended to indicate the boundary is drawn up the Montreal River along the north shore.

Exhibit 13: Map entitled Map of North America constructed according to the latest information, by Thos. R. Tanner, 1839.

Is so indistinct as to the islands in Green Bay as to be of no value. This differs from Exhibit 12 in the district of the Lakes of the Desert in that a continuous line is drawn from the mouth of the Montreal River to the mouth of the Menominee in such way that it is impossible to determine where one river begins and the other ends. Lakes stretch along the line and the terminology "Ls. of the Desert" spreads along this entire district.

Exhibit 14: Instructions to Capt. Cram—July 30, 1840.

Capt. Cram is instructed to survey the whole of Green Bay in order to determine which of the ship channels is the most usual, and to survey the line from the head of the Montreal River to the head of the Menominee, in regard to which he is informed. It is said this line must pass through Desert Lake, and that recent information indicates that there are several lakes in this district called Lakes of the Desert, but that the survey will give correct information on this subject, and that he should commence with the survey between the headwaters of the two rivers named.

Exhibit 15: Capt. Cram's first report with accompanying maps, in which Cram concludes,

1st. That the Lake of the Desert was supposed to be at the head of the Montreal River.

2nd. That somewhere there would be a known lake bearing the name "Lake of the Desert" which should be a point in the boundary.

And further made the erroneous conclusion that the boundary was described from information on a map of the Territory of Wisconsin published by authority of the Assembly of Wisconsin, drawn by L. Judson, a copy of which is attached to his report marked No. 1. That this conclusion is erroneous readily appears from the fact that on this map the Menominee and Montreal both head in Lac Vieux Desert. Had Congress used that map at the time of describing the boundary it would not have indicated any boundary. He also reports that the Montreal River does not head in a lake, but takes its rise in an extensive swamp, and from his map indicates that the head of such river would be very much out of line with delineated boundary. From the facts and conclusions as Cram reported them, it would be impossible to survey the boundary as found in the Act and he so reported.

Exhibit 16: Letter from Douglas Houghton to His Excellency, Hon. Wm. Woodbridge, July 22, 1840.

In this letter Houghton tells the Governor that the geography of the country is entirely different from that defined by the map used at the time of the passage of the Act. He here states that the boundary crosses itself once or perhaps twice. He states that Lac Vieux Desert is in reality the Chippewa, that the Montreal River is a very short river having its source in the mountainous district along Lake Superior, and that as a result there is no boundary between the

mouth of the Montreal River and Lake of the Desert. He also reports that this country is worthless and not known and that he doesn't think a few hundred miles of it are of any importance.

Exhibit 17: Leter from Gov. Woodbridge to the Michigan Legislature Jan. 12, 1841, based on the letter, Exhibit 16.

Exhibit 18: Joint resolution of the Michigan Senate and House of Representatives authorizing the Governor to appoint a Commission.

Exhibit 19: Proceedings of the U. S. Senate Feb. 15, 1841, the presentation of resolution Exhibit 18.

Exhibit 20: Resolutions of the General Assembly of Michigan Feb. 15, 1841, in relation to the boundary line.

Exhibit 21: March 3, 1841—Appropriation of the sum of $6,000.00 for the purpose of designating and marking the boundary line to be expended under the direction of the Secretary of War, in the surveying and examination of the country between the mouths of the Menominee and Montreal rivers, and make a map of such territory and return it to Congress.

Exhibit 22: Jan. 24, 1842, Resolution of the Senate requiring the Secretary of War to make a report pursuant to the instructions given in Exhibit 21.

Exhibit 23: Cram's second report—

Attached to this report is a map drawn by Capt. Cram. This map is accurate except as to the Montreal river and the lakes at the head of it. On this map Cram does not attempt to portray any boundary line and in his report he gives such information as would have permitted Congress to definitely describe a line from Pine Lake at the head of East Branch of the Montreal River to the Brule River, either through or

south of Lake Vieux Desert as they might see fit. He still was not advised of the extent and description of the west branch of the Montreal River or of the existence and size of Island Lake at its head.

Exhibit 24: Record of the printing of Exhibit 23.

Exhibit 25: Report of the Committee on printing in favor of having report printed.

Exhibit 26: Legislative Assembly of Wisconsin Territory resolution asking a change in the line.

Exhibit 27: Dec. 14, 1842,—Record of the introduction of a Bill by Mr. Porter to amend the Michigan Statehood Act June 15, 1836.

Exhibit 28: Bill introduced as shown by Exhibit 27.

This bill proposed a compromise of the boundary situation and drew a line different from the one existing at present or the one described in the original act.

Exhibit 29: Proceedings of U. S. Senate showing the report of the Judiciary Committee on this bill, (ex. 28) and recommending its passage.

Exhibit 30: Passage of this bill in the U. S. Senate, Feb. 28, 1843.

This bill, however, did not pass the House.

Exhibit 31: Congressional Record of Introduction of a bill to amend the original Act December 13, 1843.

Exhibit 32: Report of Judiciary Committee reciting former report and attaching it without recommendation.

Exhibit 33: Proceedings of Senate showing passage of the Bill and transmission to the House of Representatives.

Exhibit 34: Proceedings of Congress upon this bill.

Congress and Committee of the Whole amended the entire description as given on the bill, on motion of a

Mr. McClelland the amendment making the boundary substantially as described in the Wisconsin Statehood Act and was conditional upon ratification by the State of Michigan, on or before June 1, 1848. No further proceedings were ever had upon this bill.

Exhibit 35: Instructions to Lucius Lyon, Surveyor General, by James H. Piper, acting Commissioner of the Land Office for the survey of the Wisconsin River.

Exhibit 36: Instructions from Lucius Lyon to Wm. A. Burt, for the survey of the boundary of Wisconsin.

Exhibit 37: Portion of the Constitution of the State of Wisconsin, framed in Convention of 1848, consenting to the boundary as laid down in the Statehood Act.

Exhibit 38: Proceedings of the Constitutional Convention of the State of Michigan in 1850, amending the boundary to conform with the Wisconsin Act. This Constitution was not adopted by Michigan.

Exhibit 39: Letter from Billinghurst to Draper, conveying letter from Mr. Preston in reference to the suggestion of the Michigan boundary line being made by Mr. Preston in 1834.

Exhibit 40: Letter from Henry Schoolcraft to Lucius Lyon Feb. 20, 1836, suggesting several acceptable boundaries and by analogy giving information that Lac Vieux Desert was not at the head of the Menominee River nor at the head of the Montreal.

Exhibit 41: Pages of Niles Weekly Register containing letter of Henry R. Schoolcraft 1836, indicating that Michigan had been granted the mineral district of Lake Superior. He speaks of the tremendous Pine heights between the Wisconsin, Ontonagon, Montreal and St. Mary's Rivers.

Exhibit 42: Photographic copy from Schoolcraft's Memoirs October 27, 1836, showing that he attended the Judiciary Committee of the Senate in the spring of the year for the purpose of imparting information which he was supposed to possess on the geography of the country in the Lake Superior region.

Exhibit 43: Map of Wisconsin, published by Augustus Mitchell 1846, showing the surveyed portions and the lakes.

Exhibit 44: Sketch of Public Surveys in Wisconsin, claimed to have been made about 1840.

On this sketch actual conditions as to Lac Vieux Desert, Menominee, and Brule rivers are shown, and the Montreal river is shown somewhat as erroneously reported in Cram's first report.

Exhibit 45: Same as 44 except as of 1842.

Exhibit 46: De Silver Map of Michigan, 1846.

Accurate as to Pottowatomie, now Washington Island, Detroit and Plum. Inaccurate as to Rock Island, but fairly accurate as to Beaver, Fox and Manitou. The steamboat map shows Detroit to Fort Howard stopping at Mackinac, Great Beaver, Isle Brule (not shown on the map), Chambers Island, Green Island, and Fort Howard. The insert map shows a group of lakes called Lakes of the Desert with the boundary line running up to the headwaters of Menominee and down the Menominee.

Exhibit 47: Photostat copy of special report of Douglas Houghton, State Geologist of Michigan, to Gov. Wm. Woodbridge in 1840.

This is at the same time as the letter (Exhibit 16). Beginning on page 8 Houghton says that so far as he can learn his impressions are that the boundary is an

impracticable one, stating that he will lay the facts connected with this is a separate communication as soon as possible. The separate communication has never been found.

Exhibit 48: Annual report of Douglas Houghton, State Geologist, February 1, 1841.

In this report Houghton refers to the fact that a small portion of the cape at Pigeon River would be in Michigan, but makes no mention of any further investigation of the boundary now in dispute.

Exhibit 49: Letter from John Farmer to Hon. Lucius Lyon, Delegate in Congress, January 25, 1834, enclosing a copy of Farmer's map of 1830, (plaintiff's Exhibit 5.)

Exhibit 50: Leter from Lucius Lyon to Col. D. Goodwin, Detroit.

Indicating that the boundary line was to depend upon the Montreal and Menominee rivers between Green Bay and Lake Superior.

Exhibit 51: Letter from Lucius Lyon to Amos Kendall,

Asking remission of postage charged him on maps sent for the use of the House of Representatives, by his publisher at New York. In this letter he says that he ordered the publisher to send ten maps of the Territory and ten of the State of Michigan, undoubtedly referring to the maps of the Territory of Wisconsin (plaintiff's Exhibit 6) and the maps of the State of Michigan, (plaintiff's Exhibit 5).

Exhibit 52: Letter from Lucius Lyon to W. L. Newberry, Chicago, Feb. 21, 1836.

Stating that Wisconsin will be created a territory with boundaries including all the present territory of

Michigan west of Lake Michigan and Green Bay and south and southwest of a line running up the Menominee River of Green Bay and through Old Desert Lake down Montreal to Lake Superior, thence northwesterly to the national boundary.

Exhibit 53: Letter of Lucius Lyon to Lt. Gov. Edward Munday, Feb. 26, 1836.

Stating that the report of the Committee on the Judiciary of the House of Representatives, on the boundary would be adverse on the southern boundary and that our admission would be conditional upon the assent of the legislature to the boundary claimed by Ohio and Indiana.

Exhibit 54: Letter from Lucius Lyon to John S. Barry, of Detroit, March 20, 1836.

Stating that a select committee of the Senate will meet to consider Michigan's affairs the next day and report a bill similar to the reported by Mr. Thomas in the House of Representatives and that within a month the Michigan Legislature or people would be called upon to act upon the proposition submitted by Congress and that Michigan would be compelled to accept the boundary claimed by Ohio and Indiana.

Exhibit 55: Letter from Lucius Lyon to Thomas Sheldon, April 3, 1836.

Stating that the bill for the admission of Michigan has passed the Senate and is expected to be taken up in the House and passed in a week or two, stating the conditional of admission and that upon the assent of the convention of delegates the President shall proclaim Michigan a State.

Exhibit 56: Proceedings of the Michigan Constitutional Convention 1867.

Showing the lack of knowledge of delegates as to the true geography of the country now in dispute, and their refusal to act in such manner as might prejudice the rights of Michigan.

Exhibit 57: Extracts from a history of Brown County, by Deborah N. Martin, published in 1913.

Recognizes Death's Door as an entrance to Green Bay; states that Brown County was the only county of importance in Wisconsin before 1840, and calls Green Bay the gateway from the valley of the St. Lawrence to the Mississippi; speaks of the control and operation of the lead mines in southern Wisconsin by Green Bay men; gives first mention of Green Bay as in 1669 when Allouez made the acquaintance of the Pottawatomies who dwelt at the foot of the Bay Des Puans and who had also taken possession of Huron or Washington Island; mentions the establishment of a fort at Green Bay through the influence of John Jacob Astor, whose principal agent in this territory was Ramsay Crooks; the fort was actually established first in 1816. It was occupied by portions of the garrison from Mackinac who proceeded there in a fleet of three schooners. The article says the commanders of one schooner were forced to put into a sheltered harbor of a well wooded island at the foot of the entrance of the bay and not knowing they were on the Pottowatomie Island, they christened the Island "Washington" in commemoration of their flagship and the father of their country. This harbor was undoubtedly Detroit Harbor, consequently these ships undoubtedly proceeded through Port du Mort. It further states that as the fleet went

up the bay they saw another island and to this they gave the name of the new commandant of the post Col. Talbot Chambers. The fleet arrived at Fox River either the 7th or 8th of August. At this time the settlement of Green Bay contained forty-five or forty-eight families all openly professing to be subjects of Great Britain, and was ruled by from ten to twelve traders, who were all in league with the American Fur Company, including Grignon, Laws and Porlier. Times had become more prosperous, and the want caused by war was being rapidly replaced by plenty.

In the summer of 1821 the first steamboat "Walk-in-the-Water" bearing Col. Pinckney, several officers and two companies of his regiment arrived at Green Bay to assume command of the military post. It will be remembered that the first steamer was referred to in the testimony of the Cotas. The article quotes from a narrative of this expedition:

"In the midst of our gratification and delight which the scenery on the borders of Green Bay afforded us, on the 3rd of August, we finally entered into the Fox river and at one o'clock landed opposite Fort Howard."

From this it is perfectly apparent that this boat followed the east coast of Green Bay since there is no scenery on the low line of the west coast, and in 1834 the surrounding Brown County was surveyed and opened up a settlement, the town lots reaching in value as high as $1,200.00. During 1835 and 1836 heavy steamers brought settlers and spectators, the sales of real estate in one day reaching the sum of $75,000.00. In Brown County as early as 1824 sentiment for the creation of a separate state west of the Lake Michigan had aroused, and boundaries proposed to include the

entire Upper Peninsula of Michigan. The names "Chippewa", "Wisconsin", and "Huron" were all suggested for the new states. At this period the lead mines were rapidly being developed and the ore being carried down the Fox and re-shipped at Green Bay for Chicago and other points. In 1824 Judge Doty's estimate of the amount of ore shipped from Green Bay was ten million pounds. Men from Green Bay were represented at the meetings of the Michigan territorial convention which was trying to effect the entrance of Michigan as a state, and it was thus arranged that a Territorial Legislative Council should be held at Green Bay in the early part of 1836, and the Seventh Legislative Council of Michigan Territory met Jan. 1, 1836. The article entreats of this as the First Legislative Council of the Territory of Wisconsin, although it was called by and held as the Territory of Michigan. The article mentions the incorporation of a Bank west of Lake Michigan to be called the Bank of Wisconsin. This bank was opened at Green Bay in 1835. On page 15 (187 of the Volume) mention is made of the first cargo of lumber shipped from Green Bay in 1834, by one Judge Arndt; the establishment of a school in December 1836; starting of the first newspaper in 1838. The articles say the schooner was the mode of transportation for lumber, and means that as many as five sailing vessels might be seen on the Fox River on a morning waiting for a favorable wind to take them to Chicago or Milwaukee.

Exhibit 58: Extracts from Western Tourists and Emmigrants' Guide, by J. H. Colton, 1840, Detroit Public Library.

Describes the territory of Wisconsin as being south

and west of the Montreal and Menominee River and Lake Vieux Desert.

Exhibit 59: Guide Through Ohio, Indiana, Michigan, Illinois, Missouri, Wisconsin, And Iowa, published in 1840.

This map shows a small lake at the head of the Montreal River called Lake of the Desert, with a direct line running from there to the head of the Menominee River through the group of lakes shown on other maps as the boundary line. The map of this territory is very similar to Plaintiff Exhibit 6 and the boundary line was evidently taken from the line as drawn on the map. This map also shows the survey of the west coast of Lake Michigan and the east shore of Green Bay as far as and including the Port du Mort passage.

Exhibit 60: Extracts from "Western Portrature and Emmigrants' Guide" by J. H. Colton, 1852.

Speaks of the Menominee River and the inaccuracies on maps of the country, and mentions that some difficulties have resulted in relation to the boundary between Michigan and Wisconsin because thereof, and that these difficulties would require the action of Congress to adjust. Speaks of Lake "Katekittekon" or Lac Vieux Desert as being at the head of the Wisconsin River and not at the head of the Montreal as at first supposed. That on an island in this lake there is an old Indian planting ground and says Lake of the Desert as it is sometimes translated is an improper name, the country being one of great fertility abounds in small lakes which constitute the heads of several larger rivers the Menominee of Lake Michigan, the Ontonagon and Montreal of Lake Superior, the Wiscon-

sin and Chippewa of the Mississippi, all take their rise on the summit in the Katakittekon country.

Exhibit 16: Extracts from Biography of George Henry Cannon,

Showing that he first came to Michigan in 1846 and was occupied in surveying public lands in Michigan from 1850 on.

Exhibit 62: Extracts from an article by George H. Cannon in 1905, called "Our Western Boundary."

This article shows that Cannon adopted the theory that the boundary should run up the Montreal river to its source in the Island Lake, from the other extremity of which a river was supposed to issue flowing into the Menominee of Green Bay, shows that Cannon was not familiar with the actual definition of the boundary, and that he had no knowledge that these lakes were called Lakes of the Desert, but assumed that Lac Vieux Desert was Lake of the Desert. Cannon criticizes Cram's selection of the junction of the Pine and Balsam as the headwaters of the east branch of the Montreal and says he should have gone to the lake at its head and says that he believes Capt. Cram never personally saw Pine Lake, which Capt. Cram referred to as a small pond but Cannon says is over two miles long and a half a mile wide. Cannon says the west branch is very much the larger of the two branches of the Montreal and should be deemed in fact to be the Montreal River proper, that its source is in a much larger lake which he says is unquestionably the headwaters proper of the Montreal River. He also mentions that Capt. Cram did not attempt to lay out a boundary, but merely to furnish information for future legislation.

Exhibit 63: Further extracts from same article.

Mentions Burt's survey; how Burt was instructed to survey the boundary line according to Wisconsin Act.

Exhibit 64: Extracts from an article by George H. Cannon, entitled "Michigan's Land Boundary."

Shows how the survey under the order of 1841 was suspended and tells of the interest of Peter White in the subject and the legislative action of 1909, which was the original official instigation of this suit.

Exhibit 65: Memorandum found with the Peter White papers in the Detroit Public Library.

This memorandum says "now it is known that the Montreal River is several miles to the west issuing out of a large lake," and "says that it occurs to me that if the boundary matter is pushed to a conclusion that the U. S. Supreme Court would have to decide whether the headwaters of the Montreal River were where nature made them or at the junction of two streams selected by Capt. Cram." The memorandum is signed George H. Cannon, and dated Washington, Michigan, September 1906.

Exhibit 66: Another letter dated Washington, Mich., addressed to Hon. Peter White, dated Nov. 26, 1906.

In answer to a letter of the 7th asking if it would be worth the effort to endeavor to get the Wisconsin Legislative authority to occupy the region south and west of the boundary line, to which he answers emphatically yes. He states the error made by Capt. Cram is so obvious and Michigan's title to the region so clear, that he is inclined to believe that Wisconsin authorities would give Michigan what was justly hers.

Exhibit 67: Letter from George H. Cannon to Hon. Peter White found in Detroit Public Library.

In answer to a letter suggesting a joint resolution calling upon Congress to correct the boundary line error made by Capt. Cram. This correspondence deals with the mistake as to the east and west branches of the Montreal and at no time recognizes that either Island Lake or Pine Lake was the lake referred to by Congress as the Lake of the Desert. In this letter he states that Cram undoubtedly was a competent surveyor and knew all about the survey of these rivers and the sounding harbors, but that he was not a woodsman and having encountered the vast wilderness of northern Michigan and Wisconsin, he was lost except he remained upon his line of survey and hence a lack of thorough exploration of the region he traversed.

Exhibit 68: Letter from R. G. Thwaites to Hon. Peter White, Washington, D. C., dated March 4, 1907.

In relation to the continuance of the session of the Wisconsin Legislature—original in the Detroit Public Library.

Exhibit 69: Letter from George H. Cannon to Peter White, Washington, Michigan dated March 5, 1907.

Dealing further with the boundary discussions, a postscript says that some 25 years before this date he spent a season examining the lands in the region of the Montreal River and its east branch and became confident that an error had been made, but he hadn't made further investigation until within a year or so when ill health gave him leisure.

Exhibit 70: Letter from Geo. H. Cannon to Peter White, March 11, 1907.

In which he says Cram fixed the terminal points for the boundary, one in Lake Desert and one *what he called* Montreal River, but which point was not on that river at all, but on the east branch. He goes on to say that Burt had to mark the boundary where Cram said it was because everybody supposed Cram was right.

Exhibit 71: Letter from Gov. Fred L. Warner to Hon. Peter White, dated March 21, 1907.

Transmitting concurrent resolutions of the House of Rep. and Senate of Michigan and certificate of appointment as the representative of the State of Michigan to present the resolution to the Legislature of Wisconsin.

Exhibit 72: Letter from Peter White to Hon. James C. Davidson, Gov. of Wisconsin, May 22, 1907.

Enclosing certificate of appointment referred to in the last exhibit.

Exhibit 73: Letter from John E. Bird, Atty. Gen., to Hon. Peter White, dated September 4, 1907.

Acknowledging receipt of a map of the boundary line and stating that he intends to visit Washington within the next few weeks to gather all information he can on the question, together with Prof. Davis who expects to soon return.

Exhibit 74: Photostat copy of a record in the War Department of proceedings had therein in 1904, upon the request of Hon. Russell A. Alger for facts inquired about by Geo. H. Cannon.

Shows that the War Department informed Mr. Alger that no letter of instructions from the Secretary

of War directing Capt. Cram to survey the Michigan-Wisconsin boundary was found on file, but that letters of instruction from Chief of the Topographical Engineers to Capt. Cram, dated July 30, 1840 and Mar. 31, 1841 were found on record and copies submitted. That the Act of Congress June 12, 1838 appropriated $3,000.00, Act of Mar. 3, 1841, $6,000.00, Act of May 18, 1842 $7,000.00, Act of August 10, 1846 $1,000.00, for the purpose. The report indicates that only $7,613.97 were expended by Capt. Cram and that the balance of the appropriations of 1841 and all the appropriations of 1842 were applied to make a survey of Green Bay and that it is thought that the appropriations of 1846 furnished the funds for the survey by Mr. Burt. The report concludes that Capt. Cram reported the line impossible of definition. That Congress further defined it in the Act of August 6, 1846 creating the State of Wisconsin. This also encloses a letter of instructions to Capt. Cram, Mar. 31, 1841, instructing him to make a correct delineation of the country between the headwaters of the Menominee and Montreal Rivers, for the information of Congress.

Exhibit 75: Extracts from "Stories of the Badger State" by Reuben Gold Thwaites.

Stating that the northern peninsula was given to Michigan as a recompense for the loss of Toledo and Maumee Bay. He also states that the difficulty with the Michigan-Wisconsin boundary occurred because of the fact that the country had not been thoroughly surveyed and there was no good map, and the attitude that a line must pass through Lac Vieux Desert, stating that the mistake was made because of a map, published in 1834 which showed the headwaters of the

Menominee and Montreal in Lake Vieux Desert, the view taken by Capt. Cram in his report. He states that the running of a line through the woods between the far distant headwaters of the Montreal and Menominee so as to have the lake in the way resulted in a crooked boundary, but it was at this time too late to correct the boundary and it thus now remains.

Exhibit 76: Extracts from an article on "the Boundary of Wisconsin" by Thwaites, from the Wisconsin Historical Collections.

States that on a map drawn by James Doty in 1820 to accompany a report on northern Wisconsin to Gov. Louis Cass, Lake Vieux Desert is styled "Old Plantation Lake". Discusses several possible boundaries and assumes that Cram was right in saying that Lake Vieux Desert was the lake referred to by Congress quoting from the report of the Committee of the Wisconsin Territorial Council, he states "It is not in the nature of political communities to surrender to any rights, especially rights of territory, to which any circumstances have given them the color of claim, and it is not reasonable to expect that Michigan will surrender to us any claim she may have to territory west of Lake Michigan derived by virtue of the act admitting her to the Union". This after stating that the northeast boundary of the territory of Wisconsin was still open and *should not be* established as the permanent boundary between the two states. Speaking further of the act of Congress of Aug. 6, 1846, enabling the people of Wisconsin to form a state Constitution, he says "while it embodies some of the recommendations made by Capt. Cram, it is nevertheless faulty and fails in several particulars to specify which channels of the

Menominee, Brule, and Montreal Rivers are the intended ones."

Exhibit 77: Extracts from "Child's Recollections" from Wisconsin Historical Collections.

Showing that Capt. Cram procured the men who assisted him in his survey at Green Bay and that the author was employed to take charge of the packages and provisions on the expedition of 1841; the hardships which the party suffered and the difficulty they had because of iron deposits.

Exhibit 78: Letter to John E. Bird from E. R. Hall, Batavia, New York.

Wherein Hall tells of his being in the survey of 1846 and 1847 under William A. Burt. He states, "On finding the supposed boundary line we were several days locating different points to establish our starting points. The worst was in finding Lake Brule on coming back to Lake Desert. Mr. Burt says he was satisfied that Capt. Cram worked under a mistake in the establishment of the boundary line which should be far southwest of where he found it. He said Capt. Cram evidently mistook the rivers or he never saw them. Burt finally set a cedar post at the terminus of Cram's line and started the work which was very laborious, but they were always ready whenever they could get a shadow from the sun, referring to the Burt solar compass from which he made an accurate line.

Exhibit 79: Extracts from an article on "Boundaries of Michigan" by Claude S. Larzelier, from Michigan Pioneer & Historical Collections.

Speaks of the transfer to Congress by the President, a report showing that the line could not be run and

suggested that Congress make a more definite description.

Exhibit 80: Extracts from "The Western Boundary" by Anna Mae Soule, Michigan Pioneer & Historical Collections.

Tells how Mr. Preston of South Carolina was chairman of the House Committee and that during a discussion he asked how much territory lay west of the proposed State of Michigan and on being told he suggested that such a division of the country left too much territory west of Lake Michigan to form one state, and that it would be much better to give Ohio what she wanted on the south and extend Michigan on the west by running a boundary through Lake Michigan to Green Bay and thence northwest to Lake Superior, by a devious but supposed waterway.

That the appropriation for the survey was made at the suggestion of Senator Norvell, in 1838, but was too small. The article proceeds further on the assumption that Congress had thought they defined an entire water boundary, and that Captain Cram rightly reported that the boundary was impossible. This article also contained copies of the two maps attached to Cram's report, the Judson map showing Montreal headway in Lake Vieux Desert, and the other showing the Montreal with no lake at its head.

Exhibit 81: Unassigned.

Exhibit 82: Extracts form Michigan Constitutional Convention 1907.

Showing that the Constitutional Convention knew of no dispute as to the boundary except as to the east and west branch of the Montreal and claim any and all rights they might have. At that time the boundary

was made to run up the west branch of the Montreal as the main channel and to the middle of Island Lake deeming it the headwaters of the Montreal, and without any idea that it was the lake designated by Congress as the Lake of the Desert, and the Constitutional Convention still deemed Lake Vieux Desert, a necessary point in the boundary due to Cram's error.

Exhibit 83: Extract from "Personal Memoirs of Henry R. Schoolcraft, showing travels in Green Bay in 1820.

Tells of their travelling from Green Bay up the east shore of the Bay and of their camping at Little Detroit, and Port des Mort passage.

Exhibit 84: Map of the Territory of Michigan by John Farmer in 1830.

It is noticeable that this map contains inserts of Mackinac and of the lead district now the territory of Wisconsin, of Green Bay settlement and the portions of the state which had been surveyed only.

Exhibit 85: Traveller's Map of Michigan, deposited by H. S. Tanner in the Library of Congress, as the author, in 1832.

Contains steamboat route Detroit to Fort Howard, stopping at Great Beaver Island, Isle Brule and Fort Howard. On this map islands of the Grand Traverse are very inaccurate and an island very near the northern end is named Isle Brule.

Exhibit 86: Map of the Territories of Michigan And Wisconsin by John Farmer in 1835.

On this map the survey of the west coast of Lake Michigan and the east coast of Green Bay is shown. The map is accurate as to Washington, Detroit and Plum Island. Shows Detroit Harbor, Eagle Harbor,

Chambers Island, Green Island, Big and Little Sturgeon Bay. The islands to the north of Washington Island are very inaccurately portrayed and one of them is named Isle Brule, this island being placed where no island in fact exists.

Exhibit 87: Map of the surveyed part of Michigan by John Farmer 1837.

This map is similar in all respects to preceding exhibit, both of which are entirely inaccurate as to Menominee river and Lake Vieux Desert.

Exhibit 88: Letter from A. J. Ellis to Hon. Lucius Lyon, Dec. 8, 1833.

Urges Lyon to ask for improvements of the Fox and Wisconsin rivers, asking specifically for $500.00 for the purpose of setting buoys across the flats at the mouth of the Fox stating this is necessary improvement because more than half of the schooners have grounded on the flats this season.

Exhibit 89: Letter from A. J. Ellis, Green Bay, to Hon. Lucius Lyon, Washington, entering a protest on the change in the mail route to Chicago.

Exhibit 90: Petition enclosed in the last letter

Showing the improvements in this settlement as of that date June 22, 1834.

Exhibit 91: Letter from Lucius Lyon to Hon. J. D. Doty, Gren Bay, Feb. 10, 1836.

Stating the progress of the bill creating the territory of Wisconsin.

Exhibit 92: Letter to Lucius Lyon from A. J. Ellis, Green Bay, February 15, 1836.

Showing the situation as to entrance of Michigan

battled by the statesmen from Ohio and the interest of Mr. Ellis at Green Bay in Michigan's rights.

Exhibit 93: Unassigned.

Exhibit 94: Report of Capt. W. G. Williams, Dec. 31, 1841.

Report shows the survey was commenced at the southern cape of the entrance to Green Bay, the object of commencing north of Green Bay consisting not only of the importance of the entrance itself, but in order that this point might be established by a triangulation of Beaver and the Manitou Islands, the great thoroughfare of the straits of Mackinac was likewise important and surveyed. The report mentions the importance of surveys on the boundaries between the states, but does not show that any attempt was made as to this boundary. In making this survey the base line ran from a point about seven miles south of the northern extremity of the peninsula through the entrance of Green Bay to the north pier of the harbor of Chicago. From this base line the west coast of Lake Michigan and the east coast of Green Bay was plotted and soundings along shore were taken. It will thus be seen that this survey was conducted for the purpose of furnishing information necessary to navigate on the Beaver and Manitou Islands and Port de Mort passage and from Chicago to the Port de Mort passage and down the east coast of Green Bay to the village of Green Bay. The report contains an account of the commerce of Lake Michigan, its dangers, disasters and states that in 1679 La Salle built a vessel of sixty tons and sailed it from Lake Erie to Green Bay then to Niagara, and after waiting some months upon the failure of the vessel to return to Green Bay he proceeded

westward. From that time to the commencement of hostilities in the War of 1812, sailing vessels were seldom on Lake Michigan except bark canoes and occasionally a Mackinac boat coasted along the beach. In 1819 the only steamboat then on Lake Erie "Walk-in-the-Water" ventured a trip to Mackinac and subsequently in 1826 to Green Bay, upon an experimental excursion to Green Bay. The report states that commerce of the Upper Lakes commenced in 1832 when Chicago began to grow. That the necessity of the Black Hawk's Indian War required transportation of troops and supplies concentrated at Chicago. At the close of the war that fall immigration followed and Green Bay began to grow. Then follows a detailed report of the receipts of a number of boats, lives lost and damages on Lake Michigan for various succeeding years, and speaking of the dangers the report states, "There is an entire absence of any improvement at the mouths of such rivers as nature has furnished for refuge. Along the whole western coast of the lake except at Chicago. Commencing at Death's Door the entrance to Green Bay and going around the lake to a point nearly opposite on the east side we passed over five miles of country. It reports the making of hydrographic surveys of the bays at several mouths of the river with the plan and estimate of the coast to make them suitable harbors. It states the natural route of the lead and copper trade of Wisconsin as through the Lake and that this trade has arrived to that degree of importance to require for itself alone a safe harbor for shipment. That the most natural route from the heart of the lead district is into the head of Green Bay. It is noticeable that this report is signed T. J.

Cram, Capt. of the Topographical Engineers, dated at Racine, Wisconsin Territory, March 1, 1842, and does not in any way attempt to fix a boundary between the State of Michigan and the Territory of Wisconsin through Green Bay, and did not include a survey of that portion of the country between Green Bay and Lake Michigan to the north of Washington Island nor any survey of Green Bay to the west of Chambers Island. If it may be said to reflect, Captain Cram's idea of the most usual ship channel and it is shown by a report of the War Department that he was spending money appropriated for the purpose of determining that fact, certainly he had no notion of placing the channel where it now exists.

Exhibit 95: Extracts from "Travels Through the Interior Parts of North America by J. Carver in 1767.

Describing a trip to Green Bay in 1766, states that at the entrance from Lake Michigan to Green Bay are a string of islands. That of the side that lies to the southeast is the nearest and best navigation and that of the largest and best of these islands is a town of Ottawas. The report further discusses the land on the southeast side of Green Bay indicating that they had passed along to that shore. It further states that the communication between Lake Michigan and Green Bay had been reported by some to be impracticable for the passage of any vessels larger than canoes on account of the shoals that lie between the islands in the Grand Traverse, but on sounding it he found it of sufficient depth for a vessel of sixty tons and the breadth proportionable. The passage on the south-

east side of the string of islands is Port de Mort Passage.

Exhibit 96: Plan of Capt. Carver's travels through the interior parts of North America, 1766 and 1767.

This map is fairly accurate as to the Beaver Island. The southern end of the entrance to Green Bay or Port de Mort is accurately portrayed, as is Chambers Island and Hat Island, indicating that he travelled from Mackinac passed the Beaver through Port de Mort and the Strawberry passage to Green Bay. The Menominee river is shown as heading in a lake without name and there is no river shown as the Montreal.

Exhibit 97: Map of the U. S. Geo. Survey of the southern entrance of Green Bay, 1842.

On this map, Detroit, Plum, Washington, Fish and Bear Islands are fixed by triangulation. The Fish Island upon this map is the Pilot Island of today, and triangulation furnish the necessary data for passage through the Door, which upon this map is called Albert Passage. The location of Fishermen's Shoal of today is very inaccurate and practically not attempted to be given as an island, but merely splash put on the map to indicate there are dangers at this entrance. It is also interesting to note that upon the Green Bay side, the islands are given with almost exact accuracy as are also the harbors. This exhibit is a photostat copy of the original sketch of this survey, now in the Detroit Lake Survey Office.

Exhibit 98: Extracts from the report of the survey of Green Bay made March 26, 1846, being Document 170 of the 29th Congress. 1st Session, H. R.

This transmits to Congress a copy of the chart of Green Bay in Wisconsin Territory.

Exhibit 99: Chart of the southern entrance of Green Bay by Capt. Cram transmitted to Congress, as indicated in Exhibit 98.

Exhibit 99: Part 2. Same on a larger scale, dated 1863.

Chart on the entrance of the north end of Green Bay and the islands at the entrance, 1863. It is noticeable that this is the first information of the existence of any shoals on what is known as Fishermen's shoal in the entrance to the Rock Island passage, and that upon this chart these shoals are very inaccurately portrayed and are not marked.

Exhibit 100: Chart of the South end of Green Bay, the islands at the entrance and part of the west coast of Lake Michigan, published in 1863 and 1864.

This chart again inaccurately portrays Fishermen's Shoal and on neither this chart nor the last one are the St. Martin's Shoal in the middle of the Rock Island passage shown.

Exhibit 101: Survey of the west coast of Green Bay by A. F. Chaffey 1865.

Exhibit 102: Photograph copy of the chart of the South end of Green Bay and the islands in the entrance thereof, as per survey of 1864—revision of 1905.

In this chart for the first time appear Fishermen's Shoal and the Fish Island Shoal. St. Martin's Shoal in the center of Rock Island passage is not yet portrayed, however the Whaleback shoal which interferes with the passage to the west Chambers Island is shown, indicating that it had been discovered by boats attempting to pass to the west of Chambers Island coming to Menominee. While St. Martin's Shoal is not

shown in the sailing directions marines are instructed in taking this passage to look out for a ten foot shoal south of St. Martin's Island under given bearings. The sailing directions also instructed a course from a lake to Green Bay to follow the east coast of Green Bay or Strawberry Channel.

Exhibit 103: Letter from Alexander I. Irwin to Hon. Lucius Lyon, dated December 12, 1833, urging him to push a bill for the organization of the territory of Wisconsin.

The latter deals with the location of the seat of government in the proposed territory, alluding to the fact that Green Bay is the most important point of the territory, being the terminus of steamboat navigation and about equidistant between Mackinac the northern extremity and Iowa the southern extremity of the state. At this time the contemplated territory of Wisconsin included the Upper Peninsula of Michigan.

Exhibit 104: Extract from Volume 3 of Geology of Wisconsin, naming the Montreal river.

This article is entirely in error in relation to this stream as it speaks of the "Go-go-ga-shu-gun" and Upper Montreal and Balsam. This exhibit is offered for the purpose of showing that the knowledge of actual conditions surrounding the Montreal section is very inaccurate and the records in regard thereto very misleading.

Exhibit 105: Extract from the report of J. G. Norvall, Ass't Geologist, found in U. S. Senate Document 57, April 23, 1848, dealing with the Montreal river.

This article, dealing with the west branch of the Montreal, calls it first the west fork of the Montreal but later deals with it as the principal Montreal river

and gives it at 25 ft. wide and 3 ft. deep, at the point where the trail crosses it, and is 963 feet above the level of Lake Superior at that point and says that it was there bridged by engagees of the American Fur Company.

Exhibit 106: Act No. 15 of the Public Acts of 1919, Extra Session, creating the Michigan-Wisconsin Boundary Commission and authorizing the Attorney General to bring such action as he may deem necessary and proper to establish the boundary between Wisconsin and Michigan.

Exhibit 107: Copy of portions of a book entitled "Sketches of a Tour of the Lakes, etc., dated 1827, deals with a trip along the north shore of Lake Superior, commenced July 8, 1826, tells of the dangers from unfriendly Indians at that time. Among those on the trip was Henry Schoolcraft, Indian Agent, describes the mouth of the Montreal river and the finding of a starving Indian at that point and the commencing of the Portage trail to Lake Du Flambeau, which has an outlet in the Chippewa river entering into the Mississippi, the writer being interested in this route because it was reported that a band of Indians who had committed murder and who they were attempting to arrest, had taken this route.

The exhibit is offered for the purpose of showing the conditions at that time and that the knowledge of the country depended almost entirely upon the characteristics of the trails traveled by the voyagers and the knowledge of Schoolcraft, who later appeared before the Senate Committee which drafted the act.

Exhibit 108: Pages of the second report of the Railroad Commission of Wisconsin on Water powers, giving data as to gauging stations maintained at Gile and Ironwood, between the years of 1918 and 1923.

Summaries from this data will be found in the testimony of T. R. Hasley.

Exhibit 109: Photostat copy of record of Lighthouse from U. S. Lake Survey Office, Detroit.

SYNOPSIS BY DATES

Name or Position	Fog Signal	Date	Remarks
Potawatomie, NW. Point Rock Island	No	1837	9 ft. shoal in channel 2 dangerous reefs to SE.
Tail Point Entrance to Green Bay	Yes	1848	
Porte des Mortes, Pilot Island (Pilot Island)	Yes	1850	No shoals in channel.
Green Island, Green Island	No	1863	Best channel is to E. of this island.
Eagle Bluff, Mainland	No	1868	Guide to Strawberry passage. Good harbor.
Chambers Island, Chambers Island	No	1868	Reef to NE.
Menominee, Menominee Pier	Yes	1877	
Fisherman's Shoal, near Can Buoy	No	1897	
Entrance to Rock Island Passage			Bearings given to Port des Mort Passage or Poverty Island, none to Rocx Island.
Plum Island, Plum Island Range Lights	No	1897	Range for Porte des Morte.
St. Martin's, St. Martin's Light, Island	Yes	1905	

No record of the old lighthouse on Plum Island. See exhibits 126-180—test of Capt. Betts, Peterson, Richter.

Exhibit 110-111: Blue prints of Menominee and Brule made by Capt. Cram on his first survey.

These exhibits are offered to show that Cram made no effort to determine the main channel of the river.

Exhibit 112: Blue print copy of the Montreal River Survey under the direction of Capt. Cram in 1841, Cram's second trip.

This exhibit is offered to show that Cram caused to be surveyed only the lower section and east branch of the Montreal river, and that the map is inaccurate except as to those portions of the river and the portion along the Portage trail there shown.

Exhibit 113: Is a complete map of Northern Wisconsin and Upper Peninsula of Michigan with lines illustrating the territory in dispute, being the same as Exhibit E of the Bill of Complaint.

Exhibit 114: Government chart of the entrance to Green Bay, 1922, covering the entrance to Green Bay.

This chart is offered for the purpose of showing the actual physical condition of all entrances. The chart refers to four principal entrances, to-wit, Port de Mort passage, Rock Island passage, St. Martin's Island passage and Poverty Island passage. The widest passage as far as obstructions in the passage itself are concerned, is the Poverty Island passage, this passage however being endangered by Poverty Island Shoals and Gravely Island Shoals within Green Bay. St. Martin's Island passage is very crooked. Rock Island passage is traveled on a tangent, this being made simple by a known course from a point found by bearing on three light houses. The Port de Mort passage is now made very simple by bearing on the range lights. The outer edge of Fisherman's Shoals is also marked at the present time by a can buoy so that at the present time choice of these channels would depend entirely on which of them were shorter route to the desired destination. Particular attention is called to the fact that from the location of Pottowatomie light it clearly appears that this light would not be serviceable to any vessel approaching Rock Island passage from any direction south of due east.

Exhibit 115: 1922 chart of the West Coast of Lake Michigan and South end of Green Bay, showing Strawberry Passage.

Exhibit 116: 1922 chart of North End of Green Bay and North Coast of Lake Michigan to Suel Choix.

Exhibit 117: Certain pages from a folder of the Goodrich Steamship line of 1924, showing present route of travel in Green Bay and that these ships enter Green Bay by the Sturgeon Bay Canal, recross to the Strawberry passage and Washington Harbor, running thence to Escanaba and leaving the Bay through St. Martin's Island Passage.

Exhibit 118: Extracts from "Sailing Directions for Lake Michigan, Green Bay and Strait of Mackinac," Publication No. 108b dated 1906, U. S. Lake Survey Office, shows that the original canal at Sturgeon Bay was built in 1893.

Deals with the entrance to Green Bay as an entirety describing the safe passage. The balance of the article deals with the difficulties of navigation in the several passages and gives courses and distances for various destinations. Attention is particularly called to page 9 where the article says "having entered Green Bay by any of the passages previously described, we will return to the coast at the Port de Mort's entrance and proceed down the eastern channel of the Bay," as indicating that this was the most usual route to travel, Port de Mort's passage and the Strawberry Channel.

Exhibit 119: Extracts from "Scotts New Coast Pilot, 1886, found in the Library at Sault Ste. Marie, giving instructions for entering Green Bay by Portes de Mort before establishing of the range lights.

It is apparent that Port de Mort passage is made on a direct course northwest by north from a point two miles southeast of Pilot Island light with no warnings.

Exhibit 120: Copy of a letter found in the Department of Interior in relation to the establishment of Pottowatomie light on Rock Island, showing that the reservation of this light was made June 8, 1840, although the light was established in 1837.

Exhibit 121: Map of Pottowatomie (now called Washington Island, showing the peninsula between Washington Island and Sturgeon Bay.

This is a photostat copy of the original received by office of the Milwaukee Lighthouse Service, June 9, 1837. The NW end of this island is known as Boyer's Bluff and is the point upon which it is claimed Pottowatomie Light was supposed to have been established.

Exhibit 122: Extracts from Modern Lighthouse Service, showing the location of lighthouse was under the supervision of the General Superintendent of Lights who executed the orders of Congress, but who had certain discretionary powers.

That Congress usually fixed the location and kind of light. The Collector of Customs nearest to the location was usually made the local superintendent and selected the exact sight. That there were many complaints in regard to this system and on May 10, 1838, a report of the Committee of Congress, states that Congress has been acting upon the loose information given by petitioners who were usually interested in the success of certain harbors where they had lands and which had no connection with the general public interest.

Exhibit 123: Extracts from Discovery of a Vast Country in America, by Father Louis Hennepin, in 1698, describing a trip from Mackinac to Lake of Illinois (now Michigan) arriving at an island at the mouth of the Bay of Puans (Green Bay) inhabited by Indians called Pottowatomies.

He speaks of their ship riding in a protected anchorage notwithstanding the violent storm (from the geography of the country undoubtedly Detroit Harbor). Editors note in this article says Pottowatomie Island now Washington Island.

Exhibit 124: Extracts from history of the Great Lakes, Published in 1899, original in the Public Library at Sault Ste. Marie, gives the derivation of the name Montreal river, Montreal being Indian for River of the White Falls, and in the instance of our Montreal river referred to the falls near the mouth of the Montreal river, stating that this river was named by voyagers in memory of their home.

That the Griffin, a vessel built by La Salle arrived at the head of Lake Ontario in 1679. On September 12, she sailed out of the straits into Lake Michigan and after a prosperous run arrived at Washington Island, situated at the entrance of Le Grande Baie, now Green Bay, where she found secure shelter in a small bay now known as Detroit Harbor, at which point they rode out a violent storm of four days' duration. This last description is given under the sub-heading "Arrives at Green Bay." Other articles tell of the arrival of the Griffin at Fort Howard, the city of Green Bay, on the same trip. The article, deals generally with the growth of traffic on the lakes and beginning on page 4 the first steamboat sailed on Lake Michigan in 1826 or 1827. She made an excursion with a pleasure party to Green Bay. These excursions were annually made by two or three boats until 1832, but in 1833—there were eleven steamboats upon the lakes and they made in all two trips to the Upper Lakes, two to Chicago, and one to Green Bay. In 1834, two trips to Green Bay, three to Chicago. That business increased in 1835 and 1836, and in 1839 a regular line of eight boats was running to points west of Detroit. In 1841 the Chicago and Green Bay boats earned the sum of $301,803.00 from the increased quantity of agricultural products brought

from the State of Michigan, and also a good many tons of lead and shot from the mines in that section.

The article, page 8, deals with the arrival at Death's Door of a party on the steamboat St. Louis, July 9, 1841. Tells the derivation of the name Death's Door. A large tribe of Indians endeavoring to escape from a hostile tribe in canoes were all drowned. States that "a single lighthouse and occasional landmark is all that they have seen indicating that our government recognized the existence of this country. Unfortunately he does not say just where this lighthouse is located. He describes a group of islands at the entrance and states that having completed the run through the islands the boat was headed for the north Manitou Island.

Page 11 of the articles states Green Bay is one of the oldest historical points on Lake Michigan, the visit by Jean Nicolet in 1639, the establishment of the Indian mission by Father Allouez in 1669, the visit by La Salle and the Griffin in 1679, and by Father Charlevoix in 1721 where he found French posts which had been built many years earlier. The first permanent settlement was in 1745 by Augustine De Langdole, an Indian trader and a detachment of British troops, and that in 1815 the U. S. Trading post was established and in 1816 Fort Howard was erected. The Walk-in-the-Water arrived with troops and passengers Aug. 5, 1821, and a line of steamboats was established soon thereafter between Detroit and Green Bay, and improvement of the Fox River commenced.

An appendix shows that the steamer Sheldon made a trip to Green Bay and Mackinac in 1830. That in 1832 steamers visited the upper lakes and more especially Green Bay and arrived decked out with evergreens.

A vessel from Detroit arrived March 14, 1834, the Commodore Lawrence of Huron, Ohio on a trip to Green Bay. In 1834 the Michigan built by O. Newberry made an excursion tour of two thousand miles, visiting Mackinac and Green Bay and other ports of Lake Michigan. In that year a steamboat association composed of eighteen boats made three trips to Chicago and two to Green Bay.

This exhibit is offered for the purpose of showing that at the time of the creation of the State of Michigan, the lake traffic was between eastern ports, Mackinac, Green Bay, and Chicago, the recognized route of traffic being to Chicago back to Green Bay by way of Port de Mort, and the Strawberry passage and from Green Bay to Mackinac by way of Strawberry Port de Mort and Manitou Island.

Exhibit 125: Extracts from a diary of Algonquin language from the Catholic Home Library, Sault Ste. Marie, giving the name of Lake Vieux Desert with the equivalent, Gete Ketigaming—Lake of the Old Land Clearing, showing the derivation of the name Lake Vieux Desert or Lake of the Desert.

Exhibit 126: Photographic views of the lighthouse ruins on Plum Island.

View a. Ruins of the stone steps on the path leading from the landing to the site of the lighthouse.

b—Photograph of birch tree growing inside the ruins of the tower, and showing a portion of the crumbled wall.

c—Portion of the walls of the ruin from the inside.

d—Photograph of three large birches growing within the ruins of the residence of the old lighthouse—the wall of the residence can be seen in the background.

Exhibit 127: Photographic view across the Porte des Morte passage, from the sight of the Old Plum Island Lighthouse.

Attention is called to the fact that the photograph shows breakers at a very short distance from the shore, indicating deep water up to that point. The distance to the mainland opposite is given in the testimony of Col. Martin as one and one-half miles. Pilot Island light is to the left of the range of this picture and the Waverly Shoal is directly east of the point on the headland seen in the background.

Exhibit 128: Extracts from History of Door County, Wisconsin, by Hjalmar R. Holand, 1917, descriptive of Door County, Wisconsin.

He gives the derivation of the name Winnebago a tribe of Indians then occupying this section, as being the "Men of the Sea," who had their principal village at Red Bank, near what is now the city of Green Bay, states that at one time hundreds of thousands of Indians occupied this peninsula, the location of their villages and cemeteries being still apparent. The greatest evidence of their settlement remaining upon Washington Island, principally at Detroit Harbor in Porte Des Morte. That this region was the battleground first between the Algonquins and the Iroquois, Ottawas, Sauks, Foxes, and Menominees were driven westward by the Iroquois, the Winnebagoes alone being successful in holding the territory. He states that the Winnebagoes were a branch of the Dakota tribe, the original occupants of this territory. This is important in connection with the tradition that Lac Vieux Desert received its name because it was the region of the farms of the Dakotas, the Sioux who were driven out by the Menominees, branch of the Ojibways, of the

Algonquins, who were in turn practically annihilated by the Chippewas branch of the Iroquois. He tells in detail of the Winnebagoes driving the Pottowatomies into Porte des Morte passage, which gave it its name, stating that a war party of Pottowatomies were betrayed by a false light into landing on the abrupt headland of the peninsula where they were wrecked by the force of the waves and tomahawked by the waiting Winnebagoes. He tells of the travels of the early fur traders and of the missionaries along the east shore of Green Bay from Green Bay to the Door, and of the large number of Indians who occupied the east shore of the Door County peninsula, who at the invitation of the French migrated to southern Michigan to form a buffer between them and the tribes under the domination of the English. leaving only a small mixed village on Detroit Island. Tells of Green Bay being first named Baie des Puons by Father Charlevoix in 1720, and of Island de Petite, Detroit, being named by the French and of Washington Island being named because of the fact that in July, 1816, a party of American troops being sent from Mackinac to Green Bay to take possession in schooners, became separated in a storm and the schooner Washington took refuge from a southerly storm in what is now known as Washington Harbor and the bluff known as Boyer's Bluff was named in honor of the Colonel in charge, later the Indian agent at Green Bay. On the same trip Chambers Island received its name in honor of Col. Chambers of the party. Then follows a detailed description of a trip along the eastern shore of Green Bay by Mrs. Henry Baird, in 1821. This shows that the party passed up the east shore, camped at Little Detroit and then went

around to Rock Island as the starting point to commence passage across the lake.

The article continues in detail with the history showing first settlers at Milwaukee in 1818, and of trips from that point to Fort Howard, increasing settlement commencing about 1835. The village of Navarino being platted in 1830, Government Land Office being opened July 30, 1835, at which the settlement of Sturgeon Bay began, with Fish Creek and other east shore settlements.

In 1847, the steamer "Michigan" began to run between Chicago and Buffalo, visiting at the points Green Bay, Fish Creek, Sturgeon Bay and Washington Island. In 1834 the Federal Government began to quarry stone at the mouth of Green Bay to build breakwaters. Speaks of the men lost in the Door in 1871 and 1872, describing several of the wrecks, and of the establishment of a Coast Guard Station in the Door, because thereof. That the Pilot Island Lighthouse is famous for having witnessed more shipwrecks than any other lighthouse on the lake. That the fog siren can be heard for forty miles. Most of the keepers of the lighthouse have received medals for bravery. Tells of the wreck of Captain Clow's schooner, Captain Clow being a witness in this case, and the saving of a crew by Martin Knudson, the keeper of the lighthouse.

Tells of the erection of the Eagle Bluff lighthouse three miles north of Fish Creek, in 1869, to mark the eastern passage to Green Bay. Tells of Whaleback Shoal, lying nearly in the direct path of the travel in Green Bay west of Chambers Island, being the cause of many disasters before being properly marked.

Tells of the lighthouse on Rock Island being put

there to warn away the mariners from the dangerous coast.

Tells how the name Pottowatomie Island was applied to the entire group Washington, Rock and Detroit, showing the name Les Poux, in French plural, and became known to the very early parties who travelled by canoe along the north shore of the Lake, then skipping from island to island from Point Detour to Death's Door Bluff.

The article then deals at length with the development of settlement on Door County peninsula. Tells of a conversation in Depere some years after the settlement of Fish Creek, in which the islands were mentioned, a stranger asked what county they were in, and a reply from Asa Thorp of Fish Creek, said, he didn't know, and on being asked what state or territory it belonged, he said, he didn't know, they didn't have any up there.

Exhibit 129: Copy of a map of Washington, Rock and Detroit Island, in the group referred to as Les Poux from the History of Door County.

Exhibit 130: Extract from "Our Inland Seas," describing the loss of the "Griffin" Mackinaw boats, and travel in early days down the lakes and Green Bay.

Exhibit 131: Extracts from "Waubun" telling of the arrival of one of Newberry's schooners at Green Bay.

Exhibit 132: Extracts from "Wisconsin in Three Centuries" by Reuben Gold Thwaites, tells of the establishing of the territory of Wisconsin.

That the northeastern boundary of the territory of Wisconsin was the result of an error in a map, and of William C. Preston of North Carolina, stating that Preston referred to a map such as the Judson map

when he suggested the boundary, thus continuing the Cram error.

Exhibit 133: Extracts from "Character and Influence of Indian trade in Wisconsin," fixing the periods of occupation as follows: French 1634-1763, English 1763 to 1816, American 1816 to 1834, and giving the date when the lead mining had superceded the Indian trade as of 1834.

Exhibit 134: Extracts from "Centennial History of Menominee County" by Eleazer S. Ingalls, tells of the establishment of a fur trading post at Menominee in 1795 by Louis Chappee.

That the next settler to arrive was Wm. Farnsworth in 1822, he commenced building a saw mill in 1832. In 1839 there were several settlers. The second mill was built in 1844. That in 1856 there were five mills operating and by 1867, fourteen mills. In the spring of 1861 arrangements were made for a railroad to run north to Menominee, and in 1863 Menominee County was organized. The railroad being completed in Menominee in 1871 and was extended to Escanaba in 1872. The first steamboat call at Menominee was in 1836, but not until 1856 or 1857 that boats could enter the harbor at which time regular trips were made by steamers from Green Bay to Menominee.

Exhibit 135: Extracts from History of the Northern Peninsula by Alvah L. Sawyer, showing the growth of the lumber industry and that Menominee had not become an established harbor until about 1856.

Exhibit 136: Extracts from the laws of Michigan and Wisconsin, relating to the size of mesh of various nets, permitted to be used in the waters of Green Bay along the line of the interstate boundary.

Exhibit 137: Government township plat, Town 44 No. Range 1 East, Wisconsin.

This is a plat of the land lying directly west of Island Lake at the headwaters of the west branch of the Montreal river, and showing the western portion of that lake.

Exhibit 138: Government plat of Township 44 North, Range 2 East, 4th Mer. Wisconsin.

This is the plat showing the remainder of Island Lake and the territory between Island Lake and Pine Lake. Upon this territory the west branch appears following nearly the center of the plat. The east branch follows along easterly passing out of the plat in Sec. 25. Lehman's Creek also appears on this, passing through Secs. 1, 12, 14 and into 23.

Exhibit 140: Letter of A. J. Dallas to the President of the United States, dealing with the Indian situation, recommending the establishment of an Indian agency at Green Bay June 20, 1815.

Exhibit 141: Letter from J. Mason of the Indian office to Mr. Irwin, found in Wisconsin Historical Collections dated July, 1815, telling of the establishment of the Indian agency at Green Bay, and a later letter dealing with goods shipped to him by way of Chicago.

Exhibit 142: Letter from Geo. Graham, Commanding Officer at Mackinac, to Wm. Puthuff, Indian agent, telling of the appointment of executive agents in the fur business.

Exhibit 143: Letter from Puthuff to Governor Cass, June 6, 1816, telling of the seizing of furs being unlawfully taken out of America by English.

Exhibit 144: Letter from Rocheblave to Louis Grignon at Mackinac, June 6, 1818, telling of the seizure of furs by Puthuff, Indian Agent. The letter was addressed to Louis Grignon, at Green Bay.

Exhibit 145: Further letter from Puthuff to Gov. Cass with complete report on the proceedings following

the seizure of these furs, and of the travel from Mackinac to Green Bay, and of the establishment of a garrison at Green Bay, the fur industry of Door County.

Exhibit 146: Letter from Puthuff to Gov. Cass, telling of the situation at Green Bay, Prairie du Chien, etc., and of the garrison leaving for Green Bay.

Exhibit 147: Further extracts from a similar letter dated Aug. 18, 1816, showing that goods had been received at Mackinac for Green Bay and Chicago at this date.

Exhibit 148: Extracts from a letter of John O'Fallon, Captain of the Rifle Regiment, at Green Bay.

Exhibit 149: Extracts from "Reminiscences of Life in Territorial Wisconsin" by Elizabeth Theresa Baird, married at Mackinac Island in 1824, and came to Green Bay by schooner Jackson, and tells of a trip from Green Bay to Mackinac in Mackinaw boats, and in 1839 of a trip to Buffalo by a steamer and that in order to do so they had to go all around Lake Michigan, since that was the way the boats went. She tells of being invited to the home of Col. Thomas Jefferson Cram, who was one of the engineers on the survey of the boundary in question.

Exhibit 150: Extracts from "Report on the Quality and Condition of Wisconsin Territory, 1831" by Samuel Stambough. Tells of the Death's Door passage and how it received its name, and of the travel from the mineral land region to Green Bay.

Exhibit 151: Extracts from "Menominee River. Its Past and Present," by Lewis S. Patrick, 1871, confirming the facts given as to the establishment of the Menominee Harbor.

Exhibit 153: Extracts from "Narrative of Alexis Claremont, who was born on Mackinac Island and

went to Green Bay in the autumn of 1820, and later of becoming a Captain in the traffic from the lead mines to Green Bay, until 1836, when he became a mail carrier, and later having worked for Thos. Jefferson Cram who ran the boundary between Wisconsin and Michigan, telling that on the occasion of Cram's first trip he went up the Menominee from Portage trail to Lake Vieux Desert, and then had three days portage from there to the Ontonagon.

Exhibit 154: Extracts from "Reminiscences of Early Days on Mackinac Island" by Elizabeth Theresa Baird, describes a trip between Mackinac and Green Bay by Makinaw boat along the eastern coast of Green Bay and along the northern shore of Lake Michigan, naming of Egg Harbor from an egg battle between voyageurs, the portaging of the neck by Eagle Bluff Island because of a storm, camping at Detroit Harbor where they waited favorable opportunity to cross the lake. They commenced the crossing at Rock Island with a favorable wind, but had to row the last part of the way. The description of the next camping place corresponds to the shore of southern Michigan, beyond the Beaver and Fox Island group.

Exhibit 156: Journal of an Episcopalian Minister's Tour to Green Bay, 1834, in the "Michigan" built at Detroit, paying a fare of $25.00 to Green Bay.

There were on the boat several families of settlers. Page 2, says Major F. has examined my Canada map and pronounced it very inaccurate with respect to Mackinac and Green Bay, showing that as late as 1834 this territory was considered by many a part of Canada, his description of entering Green Bay is inaccurate, unless they entered by the Rock Island passage, and his reference to Green Island is reference to St. Martin's Island. He records stopping at Eagle Bay and distinctly mentions passing to the left of Cham-

bers Island. During the following days he records seeing many schooners in the trade to and from Chicago. He then returned by the steamer Sheldon Thompson, passing up the east coast, he says, "we are to stop at Louse Island to accommodate the Collector." He speaks of Strawberry Island as Grape Island, and of Death's Door, here placing Boyer's Bluff at Death's Door incorrectly. He says that while at Pottowatomie or Louse Island, the Captain took the Collector ashore to fix a place for a lighthouse which the Government had ordered, and the missionary went along with the others.

Exhibit 157: Extracts from an article entitled "Father Samuel Mazuchelli," who came to Green Bay first in 1831 by trader boat from Mackinac.

He returned to Green Bay again in 1832, after spending the winter in Mackinac, travelling back and forth again that year.

Exhibit 158: Extracts from "Life and Works of the Late Rev. Geo. M. Smith" pioneer missionary.

Tells of the trip of Smith in the spring of 1848 as far north as Mackinac, saying the boats hugged the shore. That the only signs of civilization were Grand Haven and Manistee, which indicates that on the trip, after leaving the Door the party directed across the lake.

Exhibit 159: Extracts from "Autobiographical Notes" by E. Lakin Brown; shows that he came to Detroit in the steamer Enterprise in 1831.

Exhibit 160: Extracts from "Old Keweenaw" by Prof. A. Tenbroeck, dealing with the mode of travel of the voyagers and traders skirting the shore and landing in case of storms.

Exhibit 161: Extracts from "Vermont to Lake Superior" in 1845, by George W. Thayer, nephew of Lucius Lyon, whom he says was just closing a term in Congress from the western district of Michigan.

Thayer came to Michigan to join the surveying party of Douglas Houghton, State Geologist of Michigan. The article shows the party proceeded by boat into Lake Superior country on the Illinois steamer belonging to Oliver Newberry, on the General Scott from Mackinac to Sault Ste. Marie, and from Sault Ste. Marie they proceeded in an Indian built Mackinac boat landing to avoid storms, which he describes as a fine sea boat successfully riding out several heavy blows.

Exhibit 162: Extracts from "Wisconsin in Three Centuries" by Campbell, showing location of trading posts and that the Menominee, whose villages were located along the Menominee, Oconto and Peshtigo Rivers, traded with Green Bay.

Exhibit 163: Extracts from "Western Traveller" by J. Disternell in 1844,—

Describes the steamboat run from Mackinac to Green Bay as passing Beaver Island and the Manitou Islands, which are opposite the mouth of Green Bay, giving the list of steamers "Walk-in-the-Water", "Henry Clay", "Pennsylvania", "Uncle Sam", "Michigan" and "Monroe", stating that the first steamer known to be on Lake Michigan was the Henry Clay, which took Gov. Cass to Green Bay in August 1827 to hold a treaty with the Winnebagoes.

Exhibit 164: Extracts from "Illustrated History of Wisconsin" by Tuttle, stating that on September 12, 1822, the schooner Tagnar arrived at Detroit with 12,000 lbs. of lead from Green Bay.

Exhibit 165: Extracts from the "Boundaries of Wisconsin" by Reuben Gold Thwaites, stating that as early as 1824, Judge Doty had interested Sen. Benton in creating a territory of Chippewa, later Wisconsin, which proposed to include the entire Upper Peninsula of Michigan.

The effort was renewed in 1830 and in 1834 considerable lobbying was done for a new bill with an eastern boundary, which bill hung fire on account of the Michigan-Ohio dispute. This article repeats the story that the land line in the district between the Montreal and Menominee river was suggested in 1834, by Senator Preston of North Carolina, and again repeats that an old map of Wisconsin then used, erroneously showed a continuous water boundary. It says that the map used by Preston was similar to one drawn by L. Judson, in 1838, and published by the order of the Legislative Assembly of Wisconsin however his statement that Preston had such a map is entirely suppositious. He further states that in 1836, the state Constitution adopted by the people of Michigan in 1835, together with a message from the President on the Michigan-Ohio dispute, was referred to a Select Committee of which Mr. Benton was chairman. That John M. Clayton was Chairman of the Judiciary Committee and a member of the Select Committee, and that this Committee reported on March 22, 1836, a bill to establish the northern boundary of Ohio as Ohio wanted it, and also to erect the Wisconsin territory. He states that while the Wisconsin bill was before the House, Elias Howell of Ohio offered an amendment to make the Wisconsin-Michigan boundary, a line running from the middle of Green Bay to the head of Chocolate river, thence down the head to Lake Super-

ior, which amendment was unsuccessful. He calls attention to the fact that Captain Cram in his report stated that it would be inferred from the language of the Act, that the Lake of the Desert was supposed to be a headwater of and discharge itself into the Montreal river, and further states, that this was found to be untrue and that the lake was found not even being in line with the headwaters of the Montreal and Menominee, and further comments on the fact that Cram said the Montreal river was found to have a course different from what was supposed, and in that respect it had been misrepresented, and repeats Cram's conclusions that it would be impossible to survey a line as described in the Act, saying that Captain Cram showed that there did not exist in nature any continuous natural boundary as had been supposed in the Act of Congress, and as for Lake Vieux Desert, it was found to be many miles northeast of a direct line drawn between the headwaters of the two rivers.

On the 16th of February, 1842, Gov. Doty sent a message to the Legislature of Wisconsin, saying,

> "It is ascertained that a part of the western boundary of the State of Michigan, as prescribed by the Act of Congress of the 15th of June, 1836, is an impossible line, there being no natural boundary as therein described. The Lake of Desert does not discharge its waters into the Montreal river. It having, therefore become necessary to designate a new line, I avail myself of the occasion to present the subject to the notice of the Assembily that such measures as are proposed may be adopted to protect the resolution of the Government of the United States of the boundary which was established in Michigan and Wisconsin in 1805."

Resolutions were adopted on this message and an attempt was made to influence the action of Congress. The subject was again brought up by Gov. Doty in the message of 1863, following which a Committee report and communications of Congress were made.

Thwaite says probably no state ever adopted a more belligerent tone toward Congress than did Wisconsin in these documents, a portion of which is here quoted.

"The Committee, after expressing its desires to believe that Congress would hasten to make all the atonement in its powers * * * should we be disappointed in its reasonable expectations, we shall continue to occupy the same position that we do with this advantage that we have shown to the world that we have exhibited to the United States Government a disposition in the instance amicably to arrange the difficulties in which we are involved, and we shall then have but to satisfy the civilized communities that we are right in our claims and pretentions to secure their sympathy and kind feeling, if not kind action and we could then safely entrench ourselves behind the ordinance of 1787, fortified by the doctrine well understood in this country, that all political communities have a right to govern themselves in their own way, within their lawful boundaries, *and take for ourselves and our state, the boundaries fixed by that ordinance,* form our state constitution which should be republican, apply for admission into the Union with those boundaries, and if refused, so that we could not be a state in the Union, *we would be a state out of the Union and possess, exercise and enjoy all of the rights, privileges and powers of the sovereign state of Wisconsin,* and if difficulties must ensue, we could appeal

with confidence to the Geat Umpire of Nations to adjust them."

Exhibit 166: Extracts from an article by John J. Sherman, of Marinette, Wisconsin, describing life on the Menominee river, confirming facts heretofore set forth in connection with other exhibits.

Exhibit 167: Extracts from "Winter Studies and Summer Rambles", by Anna Brownell Jameson, describing travel in the district in 1852.

Tells of the Indians travelling to Manitoulin to receive the present distributed by the British Government, fixing the date when the Chippewas drove the Sioux out of this district as between 1726 and 1730.

Exhibit 168: Act creating the Michigan-Wisconsin Boundary Commission, appropriating $5,000.00 for the purpose of investigating the boundary line in dispute, approved June 25, 1919.

Exhibit 169: An act making further appropriation for same Commission, approved May 18, 1921.

Exhibit 170: Report of the engineers employed by the Michigan-Wisconsin Boundary Commission, on the boundary from the mouth of the Montreal river to the headwaters of the Menominee river.

The report shows an accurate check on the government survey of the west branch of the Montreal river and meander of Island Lake, which checks with the Government plats on file. Reports that the west branch of the Montreal is clearly the main river which the east branch enters at an angle. That Mr. Burt called it the middle river when he surveyed Michigan section lines in 1845. That the west branch flows out of Island Lake, of which an accurate survey is attached to the report, survey being made on the ice. That the lake is a spring fed lake, with shores covered with

hardwood timber. That there are many old dams upon the west branch, that it was evidently used in extensive logging operations; that upon the east branch there is only one old dam being the one now forming a pond used by the Scott and Howe mill. That the survey of the east branch practically tallied with the government survey. That there is about one-tenth the amount of water in Lehman's Creek, called by Captain Cram the Balsam, as there is in the east branch above its junction. That no monument exists marking the end of Cram's survey, although blazes were found of apparent date of 1842 and 1864, the age of the blazes being determined by annual rings grown on trees since the blazes. The engineers were unable to follow the line of Cram's survey, there being several old lines and a number of recent lines blazed by crusiers and hunters. That at the outlet of Pine Lake, which is about six miles south of the place where Cram located his monument is a dam owned by the Lake Superior Power Company. No exact survey of Pine Lake was made because the raise in the level of the water of four feet had obliterated the old shore mark. Engineers did not run the line from Cram's monument to Lake Vieux Desert, or from there to Brule Lake as no monuments exist at either end of said line, and the line could only be re-discovered by occasional blazes.

On the line from the mouth of Brule Lake down Brule River to the junction of the Michigamme, no changes in stream conditions were observed. A separate trip on the Menominee is reported elsewhere.

The watershed area of the east branch of the Montreal river is 112.78 sq. miles, west branch 96.60 sq. miles. The watershed area of the east branch as given

includes the drainage area of a creek known as Spring Creek, which enters the east branch one mile north of the forks of the east and west branches, and stating that the east branch above the junction of this creek is much smaller than the west branch, dwindling down to the size of a creek in mid-summer. That there is much standing timber in both watersheds, with more in the west branch, which may affect somewhat the steadiness of waterflow in that place.

That October 23, 1920, measurements of the flow in both branches was made; East Branch 62.53 cu. ft. per sec. West Branch, 75.04 cu. ft. per sec. The report further calls attention to the determinations by the Engineering Department of the Wisconsin Railroad Commission, otherwise referred to herein, and concludes that the average flow of the west branch is considerably larger than the flow of the east branch. That the average flow from Island Lake is greater than the flow from Pine Lake. The field notes of surveys are tendered as is also a sketch of the junction of the east and west branches of the Montreal river, which is Plaintiff's Exhibit 171.

Exhibit 172: Report of the engineers employed by the Michigan-Wisconsin Boundary Commission upon the channel of the Menominee river with respect to island therein.

The conclusions given in this report are more fully stated in the brief, under the title "The Brule and Menominee Sector" sub-heading. Attached to the report is a sketch of the Sixty Island Group in the Menominee river, and the report concludes that all changes in the channel made by driving operations and the erection of dams, have not in any instance changed the location of the main channel of the stream.

Exhibit 172: Consisting of certain photographs illustrating the report of the engineers, Plaintiff's Exhibit 172.

Particular attention is called to Photograph 7 showing the head of an Island known as Waite Island, which is claimed by the State of Wisconsin, which the photograph shows to be actually upon the left or Michigan side of the main channel. This photograph is taken directly down stream at the head of the island which is shown to be washed away to the side of the channel between the island and the Wisconsin shore, indicating that the greater volume of water passes through that channel. Attention is also called to Photograph 3, showing conditions above the island known as Miscauno, and that the channel passing between that island and the Michigan shore is merely a cut-off, the main river passing around the island and between the Wisconsin shore.

Exhibit 173: Composite map showing drainage basin of the west branch of the Montreal River, drawn by engineers for Michigan-Wisconsin Boundary Commission, to accompany their report, Exhibit 170.

Exhibit 174: Composite map drawn to illustrate the territory in dispute in this case, by engineers for the Michigan-Wisconsin Boundary Commission.

Exhibit 175: Is not produced that number being assigned to the map, Exhibit D attached to the Bill of Complaint, which is stipulated in evidence, being a copy of the map which accompanied the second report of Capt. Cram.

Exhibit 176: Discharge in second feet of the east branch of the Montreal river, at Ironwood, Michigan, for the year ending September 30, 1925, showing figures stricken from the record as recorded in the testimony of Mr. Christopherson.

Exhibit 177: Data for rating table for the east branch of the Montreal river at Ironwood, as computed by Mr. Christopherson.

Exhibit 178: Rating curve for the east branch of the Montreal river, at Ironwood, by Mr. Christopherson.

Exhibit 179: Photostat copy of the Burr map accompanying Report 476, being the Burr map of March 2, 1836.

Exhibit 180: Pages from Barnet's Coast Pilot showing growth of knowledge of navigation of Green Bay.

APPENDIX 3

PARTIAL LIST OF DEFENDANT'S EXHIBITS WHICH SUPPORT PLAINTIFF'S CASE WITH COMMENTS ON THEIR ADMISSIBILITY AND PROBATIVE VALUE.

Exhibit 2:

Extracts from an article by Henry Campbell, "Wisconsin in Three Centuries," relating to the journey of one Menard, missionary in 1663, written in 1905, and describing the Portage Trail from Vieux Desert to Keweenaw Bay as a line of early travel.

Exhibit 3:

Extracts from Malhoit's Journal, 1804-1905, stating that the name Montreal was applied to this river on a map in 1688 and may have originated from a fancied resemblance between the bluffs at the mouth of the Montreal, telling of the suggestion of Senator Preston, of South Carolina, that it be used as a boundary, and erroneously stating that according to the map used by Preston the Montreal river took its rise in Lake Vieux Desert, and further erroneously stating that W. A. Burt, Deputy Surveyor, completed the survey of the Michigan boundary, where he was surveying the new boundary described in the Wisconsin Act.

The second page tells the derivation of the term Vieux Desert or Lake of the Desert, and that this lake on many different maps, was made the source of many different rivers in early days, indicating that the term applied to the lakes at the head of all these streams.

Exhibit 4:

Northern Wisconsin in 1820, by James D. Doty.

Doty described the old plantation or Vieux Desert as a small lake which discharged into Green Bay. He says the Montreal river is not navigable, but along it is a Portage Trail which crosses the River twice, first at twenty and again at eighty pauses,—it is apparent he was speaking of the west branch as the second crossing of the Montreal river.

Exhibit 5:

Extracts from Report of John Stockton, December 4, 1844, upon the mineral condition between the region of the Montreal river, stating that the river is only navigable for small boats or canoes. Describes a trip down the Menominee river giving erroneous information, etc. Later in the description of the Montreal river, repeats the erroneous idea that the Montreal was supposed to head in Lake Vieux Desert.

Exhibit 6:

Extracts form Executive Document No. 211 on mineral lands in Lake Superior, March 10, 1846, describing a trip up the portage trail along the Montreal. Describes the crossing of the west branch in this language, "This stream we took to be one of the main branches of the Montreal and was represented as heading in several small lakes about ten miles to the southwest. The next day crossed another stream which they called the head stream of the Montreal which was sluggish and had alder bushes, from which crossing it was four miles to Portage Lake." States that this route along the Montreal is sometimes used in going to the "Old Gardens." This article proceeds to describe the old Indian clearings on the Lakes in the district, and of a canoe route from Portage Lake to Lake Vieux Desert, or the "old Planting Grounds."

Exhibit 7:

Extracts from manuscript volume of the Journal of Douglas Houghton, describing his trip up the Montreal River taken at the time of the second Cram survey. Houghton journeyed up the river by canoe, again meeting Cram at the location of the Cram monument. The journal is very replete in description of the minerals, topography, etc., but has little to say about the conditions relating to the boundary, however, describes the geographic conditions referred to in the statement of facts, to the effect that the west branch broke through the second barrier and not the east branch. Houghton described the point where he met Cram as 100 pauses from Lake Superior on the portage trail, which, considered with the former exhibit indicate that the reference to the Montreal was to the west branch.

Under date of July 27th, he enters in his journal the information evidently given him by Capt. Cram to the effect that the Montreal river from the second range of hills to the point of meeting has a few tributaries, and those of very small size, mostly from the west, and these streams appear to be chiefly drainage of marshes. It thus appears that Houghton at this time was relying upon the information given him by Capt. Cram and did not know of the size or extent of the west branch except at the junction with the east branch. Houghton states that the Gross Pine is the larger of the two streams, Gross Pine and Sabin, and that the lake at the head of this might be considered the head of the Montreal river.

Upon the next page he describes a sketch of the Montreal river system, indicating that he was furnished erroneous information as to the river Sabin, which

shows a heading in a lake. He places upon the map in a position where he saw the mouth of the west branch, Hemlock Creek, but shows it dividing into two small streams, very short, one heading in a lake with the portage trail crossing it, evidently being misinformed upon this subject by Capt. Cram. For three days the party remained at the junction of the Gross Pine and Sabin, engaged in astronomical observations. Lt. Webster, with his party from Lake Vieux Desert, arrived the second day. During this time Houghton was engaged in mineral exploration; the party then proceeded down Portage Lake into the Wisconsin.

Exhibit 8:

Letter from Surveyor General's Office to Commissioner General of the Land Office, enclosing contract of Wm. A. Burt for establishing the boundary.

Exhibit 9:

Contract with Wm. A. Burt, providing for the survey according to the act to Enable the People of Wisconsin Territory to form a Constitution and State Government.

Exhibit 10:

Portion of the annual report of Lucius Lyon in 1847, wherein Lyon reports the completion of the Burt survey, according to the Wisconsin Enabling Act. At this time Lyon was surveyor general of U. S. for this district.

Exhibit 11:

Report of Wm. A .Burt upon this survey.

Exhibit 12:

Report of Geological Survey by Dr. Owen, in 1847-1848. On the third page mentions crossing of the west

fork of the Montreal river, the next paragraph mentioning it as the Montreal river and giving the altitude as 963 ft.; states that the river is about 25 ft. wide and three ft. deep and has been bridged by the American Fur Company. He later speaks of the crossing of the east branch of the Montreal as the Montreal river.

Exhibit 13:

Extract from report of C. T. Jackson, U. S. Geologist, of survey of the Michigan mineral regions. Describes a trip up the Montreal river, Portage trail, in 1849.

Exhibit 14:

Geological report of Foster and Whitney, 1850. The information is evidently based upon the report of Capt. Cram.

Exhibit 15:

Northeastern Boundary of Wisconsin, by Samuel F. Vinton, letter dated 1858, gives the names of the Committee who considered the Michigan Statehood Bill during the session of 1834, as Mr. Clayton of Delaware, Mr. Preston of South Carolina, and others. States that Vinton was deputed by the Ohio delegation to go before the Committee, and that Michigan was there represented by Mr. Lyon. That when the arguments were closing Mr. Preston inquired how much territory lay west of Lake Michigan. The answer was that the country had never been surveyed, but was supposed to contain more than a hundred thousand sq. miles. He remarked that that was an unequal division, and states, he put his finger on a map which hung before him, and drew it along the very line which now forms

the boundary between Michigan and Wisconsin, and remarked that that would be a fair division of the country. That at the commencement of the next session, the same question was again referred to a Committee on the Judiciary, of which Mr. Clayton and Mr. Preston were members, giving the report of that Committee as Vide 3 Vol. Senate Doc. 1st Sess., 24th Cong. No. 211. He then gives the names of the Select Committee to whom was referred the message of the President on the subject, as Mr. Benton, Mr. Clayton, and others, and states that that Committee reported out a bill which became a law, but that they made no report with the bill.

He further states that Lucius Lyon never consented to the bartering away of land on the south for land on the west of Lake Michigan, nor did any of the delegates from Michigan, and that the Upper Peninsula was not given to Michigan in compensation for the loss of the territory on the south, but upon consideration of public policy.

Exhibit 16:

Letter from James Doty to C. Billinghurst, July 7, 1859, describing the political situation at the time of the admission of Michigan, concluding that "No one supposes a regular bargain was made, but no one who relied upon the inviolability of the terms of the ordinance, at that time, doubted that the leaders in National politics were governed by these views."

Exhibit 18:

Geology of Wisconsin, by Chief Geologist, 1873-1879. On the first page, the Gogogashugun, Indian name given to the west branch, is named as the main tributary of the Montreal, and later states that the river

receives its main branch the Gogogashugun, which it says *is nearly as large a stream as the Upper Montreal itself.* The article deals with the time after the survey of Capt. Cram, and considers the east branch as the Montreal above the confluence.

Exhibit 21:

Memoir of Douglas Houghton, by Alvah Bradish, 1890, showing that Dr. Houghton was lost in Lake Superior, October, 1845, in a small boat, mentions his mineral survey of the northern part of the Upper Peninsula in 1841.

Exhibit 22:

Life of Lucius Lyon, by Hon. George W. Thayer, 1896, showing that he was elected to a seat in the Senate whenever the state might be admitted, in 1835, together with one John Norvell. That Mr. Lyon's term in the Senate expired March 4, 1839, but his successor was not elected until 1840, one S. Porter. Lyon engaged in private enterprises until 1843, when he was again elected to Congress. He was offered the position of Surveyor General of the northwest territory by President Polk in 1845, and was appointed late that fall, holding the position until 1850. The article further quotes from a letter which indicates that Lyon never extended his interest in the Upper Peninsula to the question of the boundary now in dispute.

Exhibit 25:

Annual report of the State Geologist in 1840, describing maps of the Upper Peninsula as very inaccurate, and giving considerable information in regard to the Upper Peninsula, dealing with the boundary at other points than those in dispute.

Exhibit 26:

Report of the State Geologist in 1842, in which he states that in connection with the duties assigned to him relative to the boundary line between Michigan and Wisconsin, he has been able to keep a very perfect geological description of the district, showing that he was paying no attention to the boundary, but relied upon Capt. Cram upon that subject. In this he was justified since there was no opportunity for him to treat with a delegate to be appointed by Congress who was never appointed.

Exhibit 29:

The Northeastern Boundary, edited by R. G. Thwaites, repeating the story of the admission of Michigan, the suggestion of the boundary by Preston, and quotes President Buchanan, who was a member of the Senate Judiciary Committee, as making a speech stating that the Upper Peninsula was not given to Michigan as a barter, but solely on consideration of public policy, and giving further benefit of the alleged bargain, as salt wells, land for public buildings, university lands, etc. The articles continue the story of the survey recommendations of Capt. Cram and the conclusion that Congress had been misinformed, and that it will be necessary to define a new line. Tells of the claim by Wisconsin that the Government should compensate that state for the loss of the Upper Peninsula, by improvement of Fox River and Wisconsin River, and quotes the article given in the Michigan exhibit wherein the Wisconsin Legislature threatened independence in the Union. Mr. Thwaites says there are many difficulties with the line as now existing, the lack of jurisdiction over the islands, the indefiniteness

of the southern shore of Lake Brule, and concludes that the line through Green Bay, would probably be held the geographical center of the Bay, tells of the attempt in Constitutional Convention in Madison, in 1846, to claim the entire Upper Peninsula.

Exhibit 30:

Lake Superior Copper Mines, 1846, by John R. St. John, describes the Montreal river, stating it heads in Lake Vieux Desert.

Exhibit 31:

Joint resolution of the General Assembly of Michigan, in 1841, memorializing Congress to settle the boundary question by a new act together with letters of transmission.

Exhibit 33:

Extracts from Debates in the Constitutional Convention of the State of Michigan, showing reliance of the members upon report of Capt. Cram.

Exhibit 34:

Extracts from an article showing the defeat of the proposed Michigan Constitution of 1867.

Exhibit 35:

Extracts from "Life and Time of William A. Burt," by Geo. H. Cannon, showing that the linear surveys of the Upper Peninsula of Michigan were entrusted to Mr. Burt.

Exhibit 37:

Extract from an article on "The Western Boundary" by Anna May Soule, in 1886, repeating the story of the admission of Michigan, with slight and immaterial changes, but still relying upon the erroneous con-

clusion of Capt. Cram that the original line was an impossible one, and suggesting that the fear of the creation of another state between Michigan and Wisconsin might have had something to do with the gift of the Upper Peninsula to Michigan.

Exhibit 38:

The Boundaries of Michigan, by Claude S. Larzelere, 1905, dealing with the acceptance of Michigan of the boundaries prescribed in the Enabling Act, and repeating the conclusion that the original boundary could not be run.

Exhibit 39:

Manual of the Constitutional Convention of Michigan, 1907, adopted in 1909, describing the Michigan boundary, "Thence through the middle of the main channel of the westerly branch of the Montreal river to Island Lake; thence in a direct line to the center of a channel between Middle and South Islands in the Lake of the Desert, (still deeming this lake a necessary point in the boundary because of Cram's report) and repeating the language of the act.

Exhibit 40:

Proceedings of the Constitutional Convention of Michigan, October 22, 1907, showing that the language of the boundary description was drawn up by the Attorney General, because of the fact that there was some question about the northwest boundary, indicating however, that at the time Michigan officials had no knowledge of the facts other than in regard to the east and west branch of the Montreal.

Exhibit 50:

Extract from Journal of an Episcopalian Mission-

ary's Tour to Green Bay in 1834, describes "entering Green Bay with Louse or Pottowatomie Island on our left, Boyer's Bluff ahead, and Green Island just past on our right"; later describes entering Eagle Bay or Harbor.' The defendant claims for this that the entrance was made through Rock Island passage, and that the reference to Louse or Pottowatomie meant Rock Island. This might be true, except for the statement "Green Island just passed on our right," in a position with Rock Island to the left there would be no island just passed on the right, and it seems more probable that the entrance was made through the Door. The reference to the island being to Detroit or Plum Island and to Boyer's Bluff, what is now Death's Door Bluff, this latter mistake being very frequent. From the reference to entering Eagle Bay or Harbor it is very evident the trip was made down the Strawberry passage between the Grape Island or Strawberry Island and Wisconsin mainland. He there says that when at Pottowatomie or Louse Island, the Captain took the Collector ashore to fix a site for a lighthouse which, however, was not done as there was not sufficient time. This would indicate that he was not referring to Rock Island, but rather to Washington Island since a man could walk all around Rock Island in a few hours.

Exhibit 51:

Act of 1834 (June 30) making appropriation for a lighthouse on a proper site at Pottowatomie Island, situated at the entrance of Green Bay in Lake Michigan, $5,000.00. Act of May 9, 1836, for a lighthouse on a proper site, at Pottowatomie Island, at the entrance of Green Bay, in Lake Michigan, in addition to a former

appropriation, made 30th of June, 1834, $3,000.00. Act of March 3, 1837, Territory of Wisconsin, for erecting a lighthouse at the entrance of Green Bay, $5,000.00. Act August 14, 1848, for a lighthouse to guide vessels through the passage from Lake Michigan to Green Bay, called Port du Mort, $3,500.00; for a lighthouse at Port Washington, $3,500.00. The appropriation of 1848 was undoubtedly spent to build the Pilot Island Lighthouse which went into operation in the spring of 1850. Prior to this there had been appropriated $13,000.00 under acts calling for the establishment of a lighthouse on a proper site on Pottowatomie Island at the entrance of Green Bay. The only record of the establishment of a light is the establishment of Pottowatomie Light on Rock Island in 1837, the year of the appropriation of the last $5,000.00. It seems more than likely that at least a portion of the former appropriations were expended in building the old lighthouse on Plum Island of which no record has been found.

Exhibit 52:

Document 41, House of Representatives, Navy Department, dated December 22, 1837. Recommendation No. 31, for erecting a lighthouse at the entrance of Green Bay, $5,000.00. Under the head of 31, a letter states that a reconnoiter of the islands at the entrance of Green Bay shows a lighthouse already erected on Louse Island. That there is another passage in the Bay about twenty miles to the southward, which is used by vessels bound from Green Bay up Lake Michigan, in which he has been urged to place a light, but he thinks it more important to place a light at the head of Green Bay and into the Fox River. He later

on says that he must call attention to the fact that the commerce and traffic to Green Bay are very great and a lamentable degree of ignorance exists among many navigators in relation to the various obstructions scattered over the Bay. Attached thereto is a letter from John F. White, dated May 20, 1837, stating the safety of navigation requires a lighthouse at the entrance of Green Bay and he thinks Louse Island the proper point, taken in connection with the former letter, it might well be that he thought this a proper point for the lighthouse as it would constitute a warning of the shoals to the east of the island and thus permit a vessel to avoid Rock Island passage rather than to use it.

A later letter dated June 8, 1837, states that there is already a lighthouse at Louse Island at the immediate entrance of Green Bay, and recommends one at Chambers Island.

Another letter, without date, but evidently attached to the same report, says, "I think it advisable to erect a revolving light at the island of————, in the south or Death Door passage, so that it might not be mistaken for the light on Louse Island. The above stated point is the best in my opinion for a light at the entrance of Green Bay. My reasons are these: When in the passage, there are lees to be found from any wind that can blow."

Also a letter dated August 18, 1837, describes a trip from Mackinac to Green Bay, says, "On passing from the straits, you enter Lake Michigan, leaving the Beaver and Fox Islands on the right, and keeping the eastern shore for the distance of sixty miles or so, until you pass the Manitou Island" opposite the entrance of Green Bay; describes the mouth of this Bay

as about thirty miles in width, and thickly studden with islands. There are two principal passages about twenty-five miles apart. In the Northern or Louse Island Passage, there is a lighthouse about going into operation, and will doubtless be a great advantage for vessels coming from or going to Mackinac. The South or Port du Mort Passage is used by those who are bound to or from the upper part of Lake Michigan. "This passage is without a light and I beg leave strongly to recommend that one be placed. It should be a colored light to distinguish it from the one at the northern passage."

He further recommends a survey of the islands at the mouth of Green Bay, and states a voyage up Lake Michigan or Green Bay will still be regarded as one of discovery.

Exhibit 55:

Extracts from an article on the Harbors of Lake Michigan in 1839, showing that the greatest travel on the lake was between Buffalo and Chicago at that time.

Exhibit 56:

Extract from "State of Lighthouses in the District of Mackinac, Michigan, 1840," showing existence of lighthouse on Pottowatomie Island, the year in which built being left blank, as well as most of the information in regard to that light.

Exhibit 59:

Extract from report of the Secretary of War, which indicates that use of the Rock Island passage began about 1862.

Exhibit 60:

Extracts from Carver's Travels, in which he states

Little Detroit is on an island in the communication of Green Bay with Michigan.

Exhibit 61:

Indicates that Carver travelled along the north shore of Lake Michigan from Mackinac Island and across the traverse between the Bay to Lake Michigan from island to island, stopping at Little Detroit in the Door passage, and thence continuing down the east shore of Green Bay to Green Bay settlement.

Exhibit 65:

Extracts from Michigan Pioneer and Historical Collections, indicating that portion of the money appropriated for the purpose of determining a boundary was spent, under the direction of Captain Cram, in determining a ship channel in Green Bay.

Exhibit 79:

The first paragraph indicates that Henry Schoolcraft had coasted the entire Upper Peninsula as early as 1820.

Exhibit 100:

Extracts from the History of Door County in relation to lighthouses. Stating that Pottowatomie light went into operation 1837, and Pilot Island light in 1850, the latter being said to be a very important light. On page 2 of the exhibit, evidently page 260 of the original, it states there is a tradition of a much earlier lighthouse on Plum Island, but no information has been found about this. On the last page it states that the early French explorers found the passage from Lake Michigan to Green Bay to be extremely dangerous, and therefore called it Porte des Mort, stating that tradition says the wreck of the Griffin was here.

This statement is in error as to the wreck of the Griffin and as to the derivation of the name, but is correct as to the location of the passage used by early explorers.

Exhibit 305:

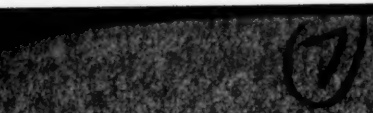
Letter of Lucius Lyon to Charles C. Hascall, dated February 21, 1836, states "thence through the Bay to the mouth of the Menominee river, thence up the middle of said river to the fork which rises nearest to the head of La Vieu Desert, thence to the head of said Lake through the same down the Montreal river to Lake Superior, clearly indicating that Lyon considered the Lake of the Desert connecting with the Montreal river.

Exhibit 360:

Letter from Douglas Houghton to John S. Barry stating that no commissioner was appointed to act with Douglas Houghton definitely upon the boundary line.

Exhibit 363:

The last page signed by Henry Schoolcraft, dated November 31, 1822, Sault Ste Marie, discloses his knowledge of Lake Vieux Desert and his grouping of the Indian village on Lake Vieux Desert with the village at the mouth of the Ontonagon.



(Mon. Supreme Court, U. S.)
FILED
JAN 22 1926
WM. R. STANSBURY
CLERK

IN THE

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1925.

ORIGINAL, No. 12, IN EQUITY.

STATE OF MICHIGAN, Plaintiff,

vs.

STATE OF WISCONSIN, Defendant.

REPLY BRIEF FOR THE STATE OF MICHIGAN.

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IN THE

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1925.

ORIGINAL, No. 19. IN EQUITY.

STATE OF MICHIGAN, PLAINTIFF,

vs.

STATE OF WISCONSIN, DEFENDANT.

REPLY BRIEF FOR THE STATE OF MICHIGAN.

Intent of Congress.

Plaintiff has contended in this suit that the Michigan Enabling Act describes a boundary between Michigan and Wisconsin consisting of four subdivisions as follows:

1. Montreal River from its mouth to the center of the lake at its head.

2. A straight line from that point to the nearest headwater of the Menominee River.

3. Thence down the main channel of that river to Green Bay, and

4. Thence through the center of the most usual ship channel of the bay to the center of Lake Michigan.

Such a boundary would consist of permanent lines of nature in three of the four subdivisions. These lines would not require intricate surveys in order to locate them, nor would they be dependent on the accuracy of the maps in use. Nature had already placed in that unexplored region two river systems which almost compassed the territory Congress intended Michigan should have. The headwaters of these two river systems were comparatively only a short distance apart. Therefore a straight overland line connecting them, simple to lay out, would add the completing link to the chain.

In considering the intention of Congress, we must constantly bear in mind that this entire region of country was unexplored and uninhabited, except by bands of hostile Indians. Many of the prominent geographical and topographical features were unknown to Congress.

The Michigan Enabling Act made no effort to minutely detail and define a boundary. It proceeded solely on the knowledge that Congress had—knowledge of true facts as they now appear—that this boundary would consist in the main of the two river systems. A straight line connecting their headwaters made the boundary complete.

We are not asking the Court to indulge in wild presumptions when we say this record in its entirety supports no other reasonable construction.

The Michigan Enabling Act describes the boundary in question as follows:

"* * * Thence in a direct line through Lake Superior to the mouth of the Montreal River; thence through the middle of the main channel of the said river Montreal to the middle of the Lake of the Desert; thence in a direct line to the nearest headwater of the Menominee River; thence, through the middle of that fork of the said river first touched by the said line, to the main channel of the said Menominee River; thence down the center of the main channel of the same to the center of the most usual ship channel of the Green Bay of Lake Michigan; thence through the center of the most usual ship channel of Green Bay to the middle of Lake Michigan * * *."

Congress did not intend that a line should be run from some *indefinite* point in the main channel of the Montreal *overland* to the Lake of the Desert. No words used indicate at what point in the river the *overland* line would commence. If that point were left to be determined by some surveyor, he might have interpreted such point to be the middle of the main channel at the mouth of the river at Lake Superior. No one would contend that Congress had thus sought to establish a point of departure. But the act says:

"* * * to the mouth of the Montreal River; thence *through* the middle of the main channel * * *."

"Through the middle of the main channel" does not mean that Congress intended to fix a *point*. That had been done, namely, *the middle of the main channel at the mouth.* So, with the point fixed, the line then proceeds.

Where does the line proceed to?

There is nothing in the language of the act to indicate that it was now to leave the river, but rather that it must follow the main channel to another definite point. This point Congress established. It is the middle of the Lake of the Desert.

Congress Knew the Lake Now Known as Lake Vieux Desert Was Not Connected with the Montreal River.

If the above be true, then obviously Congress referred to another lake of a group known by that name, or another lake known as Lake of the Desert.

The information furnished to Congress is in full accord with this theory and not in accord with any other. We shall discuss the knowledge Congress possessed in defining this boundary in Michigan's Enabling Act of June 13, 1836.

NOTE.—The exhibits and proofs upon which we rely on this portion of our case are too extensive and cumbersome to permit their reproduction and printing in this brief. We can here only refer to the original exhibits on file.

1. Lucius Lyon had arranged for New York publishers to send their maps to the Senate Committee (prior to February 15, 1836). This had been done. Plaintiff's Exhibit 51.

The only map covering the involved district published in New York near that period is plaintiff's Exhibit 59.

Assuming that map to be a later edition of the maps sent to Congress, it becomes apparent that Congress knew that the small lake at the head of the Montreal was named the "Lake of the Desert."

On that map Lake Vieux Desert appears in its proper location.

2. On February 19th Henry Schoolcraft attended a meeting of the Senate Judiciary Committee. Plaintiff's Exhibit 40.

Henry Schoolcraft knew that the Montreal did not arise in Lake Vieux Desert. Plaintiff's Exhibit 40.

"WASHINGTON, *Feb. 20th,* 1836,
Saturday Morning.

DEAR SIR:

Since seeing the committee yesterday I have reflected upon the character of that portion of the Lake Superior region, lying west of Vieux Desert Lake, *extending to the mouth of the Montreal.* It embraces the barren primitive district of the Porcupine Mountains and nothing more.

* * * * * * *

If such a line cannot be obtained, it would be most expedient in my opinion to throw the entire geographical basin of Lake Superior into Michigan, to which it naturally belongs, *by running a land line from Vieux Desert Lake west to* * * *.

Very respectfully yours,
HENRY R. SCHOOLCRAFT."

HON. L. LYON.

3. Congress had the Burr map of March 11, 1836, describing all the lakes on the height of land as "Les Lac Vieux Desert." Plaintiff's Exhibits 6 and 7.

This map was prepared by the draughtsman of the House of Representatives within a few days of the time when the Michigan Enabling Act was drafted.

On it the small lake at the head of the Montreal is one of the group. A copy of this map, bearing a line from the

small lake to the nearest headwater of the Menominee, was filed in the Library of Congress. Plaintiff's Exhibit 7.

Another copy, with the line indicating the boundary, was found among the personal effects of Lucius Lyon, in a bundle of newspapers bearing dates 1834 to 1836. Plaintiff's Exhibit 6.

4. The Farmer map of 1829 (Plaintiff's Exhibit 5) was the only map indicating the Montreal as rising in Lake Vieux Desert shown to be in existence in the United States at that time. No indication exists that Congress knew of or saw such a map. It has no connection with the boundary issue except as it was the means of misleading Lucius Lyons in 1839. Defendant's Exhibit 22. In the same respect the Judson map of 1838 misled Captain Cram. Plaintiff's Exhibit 175.

Summary of Important Dates.

1836, Feb. 15. Congress received the New York maps. Plaintiff's Exhibit 51.

Feb. 19. Schoolcraft attended Senate Committee. Plaintiff's Exhibit 40.

Feb. 20. Schoolcraft wrote Lyon indicating that he knew that Lake Vieux Desert was not connected with the Montreal, and that he had seen a fairly accurate map of the Montreal, and was looking for and could not find an accurate map of the Menominee. Plaintiff's Exhibit 40.

Feb. 21. Lyons wrote friends a description of the boundary substantially as finally adopted. Plaintiff's Exhibit 52.

Mar. 2. First description of this boundary appears in Thomas' Bill, H. R. 382, 24th Cong., 1st session.

Mar. 11. Burr map showing all lakes as "Les Lac Vieux Desert" transmitted to Congress. Record, 347.

Mar. 21. Joint meeting of committees of House and Senate on boundary subject. Record 349.

Mar. 22. Introduction of S. 177, which passed unchanged as to definition of boundary.

S. 177 passed as a companion bill to S. 178, which dealt with public lands in Michigan.

See pages 5, 6, 7 and 8, Plaintiff's brief, for a complete history of the bills before House and Senate.

1838. The erroneous Judson map published by the authority of the Legislative Assembly appears (Plaintiff's Exhibit 175), reproduced opposite page 50, Plaintiff's brief.

1840. Captain Cram surveys part of boundary and makes report based on erroneous Judson map and erroneous information from the Indians that there is no lake at the head of the Montreal. Plaintiff's Exhibit 15.

1841. Captain Cram fails to correct his erroneous statement that the boundary is impossible. Plaintiff's Exhibit 23.

1846, Aug. 6. Wisconsin Enabling Act passed. See pages 15 and 16 Plaintiff's brief.

1847. Burt survey of conditional line described in Wisconsin Enabling Act. Plaintiff's Exhibits 35 and 36, and Defendant's Exhibit 198.

1848, May 29. Wisconsin admitted with grant, subject to ratification by Michigan.

The Michigan Constitution of 1850 Did Not Ratify the Adjustment Suggested in the Wisconsin Enabling Act.

The Wisconsin Enabling Act proposed a new boundary in the Montreal and Menominee sectors. The language of the grant clearly indicates that the new line shall be effective only if ratified by some *affirmative* act of the State of Michigan. Failure to act could not be held to be ratification.

The grant to Wisconsin was in the nature of an overture to Michigan. Congress took the first step whereby Michigan could if it saw fit ratify a new line. Congress recognized that ratification by Michigan meant to that State the relinquishment of territory. She was therefore given two years in which to consider and determine whether she should ratify. It is important here to observe that the Wisconsin Enabling Act does *not* say that if Michigan takes no action within two years she shall be deemed to have ratified. The only construction possible is that Congress expected Michigan to take some affirmative action. If she did not so act, then as to the territory in dispute, Wisconsin gained nothing and Michigan lost nothing.

It must be borne in mind that at the time of the Wisconsin Enabling Act, Congress, Wisconsin and Michigan believed and relied upon the information given by Captain Cram that Lake Vieux Desert was a necessary point in the boundary. This point was fixed in the Wisconsin Enabling Act as a result of that error.

The other adjustments suggested were:

1. That the line leave the Montreal at Cram's monument.

2. That the islands in the Menominee and Brule rivers be divided between Wisconsin and Michigan.

The Michigan constitution of 1850 adopts the point in Lake of the Desert, determined by Cram, to be a necessary point in the boundary. (See Cram's reports, Plaintiff's Exhibits 15 and 23.)

1. The Michigan constitution fixes the headwaters of the Montreal as the terminus on that river and *not Cram's monument.* Wisconsin claims that Douglas Houghton, State Geologist, had agreed with Captain Cram upon the point to be known as the headwaters of the Montreal. This position hardly seems tenable in view of the quotation from the Journal of Douglas Houghton (Defendant's Exhibit 7), date of July 27, 1841, wherein he says:

> "The forks at the junction of the Gros Pin and Sapin rivers may be considered as the head of the Montreal River, or its source must be in one of those two rivers. The two streams mentioned are two mere creeks, 40 to 60 feet over, and of nearly equal size, but I should think the river Sapin to have somewhat the greater amount of water. The Gros Pin is the stream farthest south, and the lake forming the source of this may be considered as the head of the Montreal River." Sheet 11, last half second paragraph, under date July 27, Defendant's Exhibit 7.

Thus the suggested adjustment as to Cram's monument was not accepted.

In later proposed constitutions the same Cram monument was suggested, but never adopted by Michigan.

The constitution of 1909 defines the "headwaters" as Island Lake, "thence through the middle of the main channel of the westerly branch of the Montreal River to *Island Lake, the headwaters thereof;*" Michigan constitution of 1909.

2. The constitution of 1850 is silent as to the division of islands and defines the main channel of the Brule and Menominee rivers as the boundary.

If the main channel is the boundary, many of the islands claimed by defendant are within the State of Michigan.

Plaintiff's Exhibit 38 indicates that the definition of the boundary in the constitution of 1850 was reported to the convention by Mr. McClelland, chairman of that committee.

Mr. McClelland was the Congressman who counsel says "consented to the boundary" by amending the Wisconsin Enabling Act to provide ratification by Michigan. See Defendant's Brief, page 81.

To hold the constitution of 1850 as a ratification would be to determine in effect that plaintiff must surrender to defendant Merryman Island, Sawyer Island and Sugar Island, although not claimed by Wisconsin in its answer.

The Missing Link in the Boundary Which Wisconsin Claims Has Been Established by Ratification.

Menominee River Sector.

It is a conceded fact that Wisconsin is taxing islands outside her constitutional boundaries and within Michigan's constitutional boundaries, seventeen in number. Defendant's Brief, page 2.

It is also a fact that Michigan possesses islands which would belong to Wisconsin under the division suggested in the Wisconsin Enabling Act, three in number, as follows:

> Sheet 31, Defendant's Exhibit 198, shows an island surveyed in Wisconsin in 1855, occupied as part of the trading post farm in Michigan before the surveys. Record, page 209, and Plaintiff's Exhibit 172.

Taxation abandoned by Wisconsin. Defendant's Exhibit 366.

Sheet 36, Defendant's Exhibit 197, shows the survey of Sugar Island in Michigan.

Sheet 25, Defendant's Exhibit 197, shows survey of Merryman Island in Michigan. The island was surveyed in Wisconsin as shown by sheet 28, Defendant's Exhibit 198.

There are also ten large islands in the Menominee River unsurveyed and untaxed, constituting a "no-man's-land" but admitted to be on the Michigan side of the main channel. Plaintiff's Exhibit 172.

The many islands on the Wisconsin side are not mentioned and it appears there are 131 in all, so that by accepting the channel as the boundary Wisconsin will have 101 and Michigan 30. (Cram's second report Plaintiff's Exhibit 23, says there are 131 islands.)

Counsel for Wisconsin, although repeatedly requested, has failed to state what line Wisconsin claims as a boundary in this sector.

The only statement counsel is willing to make is that "Defendant claims all islands below Quinnesee Falls."

This does not indicate any line as a boundary and the islands on the Michigan side of the main channel, so claimed are at present in the condition shown above.

Seventeen are surveyed in Wisconsin.

Three (the principal ones) are surveyed in Michigan.

Ten are unsurveyed.

The facts do not justify any theory of Ratification or Aquiescence.

Acquiescence.

Acquiescence to Determine a Boundary Must be Acquiescence in a Definite, Complete Line.

There can be no acquiescence in a line which is not definite and certain. The doctrine can only be applied where lapse of the required time during possession up to a definite line has occurred.

To hold that any boundary has been established between these states is to effectuate a grant or compact passing jurisdiction. But, if the acquiescence alleged be in an incomplete line it is ineffectual to confirm jurisdiction against a prior grant.

In the case of *Rhode Island vs. Massachusetts*, 4 Howard 591, this Court laid down the doctrine that lapse of time could not effect a bar in matters between states, but only was effectual as evidence; that acquiescence in a *possible construction* definitely applied to a line of doubtful definition would by lapse of time be conclusive.

The acquiescence alleged in this case is to a redefinition of a line, *supposed erroneously to be incomplete.*

In the Montreal sector, Michigan has never *knowingly* acquiesced in any line claimed by Wisconsin; in the Menominee-Brule sector Michigan never ratified the changes proposed in the Wisconsin Enabling Act and acquiesced in no boundary line common to the two states. There is, and has been since Wisconsin became a state, confusion and uncertainty in the islands of the two rivers and no one is able to say where the boundary exists today. In the islands of Green Bay (surveyed as a part of the territory of Michigan)

it clearly appears that much of the area of the islands is under the jurisdiction of neither state, yet they are claimed by Wisconsin solely because a Federal department wrongfully returned certain of the descriptions to that state for taxation.

To apply the doctrine of acquiescence in this case is to charge Michigan with the knowledge in 1846 that the grant defined in her enabling act defined a possible boundary; that it defined the line which she claims now as the true line.

Michigan did not have this knowledge in 1846 nor 1850. She never acquired such knowledge until 1907 when Peter White first communicated to the Governor that the west branch of the Montreal River was the main branch, and that Island Lake was the headwater of the river. The adoption of appropriate language to make such claim then appeared in Michigan's constitution of 1909.

It was not until 1919 when the Michigan Boundary Commission was created that the state learned that Lake Vieux Desert, as now known by that name was not a point in the boundary intended by Congress.

Congress never made but one grant to Michigan. Congress has never modified that original grant.

There have been no commissioners appointed to determine or lay out a line. There have been no contracts with Wisconsin.

It is undisputed that Congress, Wisconsin and Michigan were grievously misled by the reports of Captain Cram. So quickly as Michigan gained knowledge of the true facts, so soon has she acted to preserve the boundary Congress intended she should have.

Douglas Houghton Did Not Determine the Boundary Impossible and He Did Not Act as a Boundary Commissioner With Cram.

On July 20, 1840, Douglas Houghton learned of some doubt as to the line, after being at La Pointe, Wisconsin, where Lucius Lyon heard the same report in the spring of the same year. Plaintiff's Exhibit 16.

In December, 1840, Cram reported to Col. J. J. Abert that the line was impossible. Plaintiff's Exhibit 15, page 9.

December 16, 1840, Douglas Houghton wrote to Governor Woodbridge of Michigan that the line was impossible. In this letter and his journal it appears that he was not on the line that summer, except at the mouth of the Montreal. Plaintiff's Exhibit 47. Thus it appears that the information given Governor Woodbridge was learned by Houghton from Captain Cram and not by reason of his own experiences.

Houghton was appointed commissioner to attend conjointly with a commissioner to be appointed by the general government "and who by their concurrent action shall so establish the boundary in question, if practicable, as shall be in conformity with the manifest intent of the act of Congress." Plaintiff's Exhibit 20.

No commissioner was appointed by the general government and Captain Cram was sent back under a further appropriation for a "survey and examination of the country situated between the *mouths* of the Menominee and Montreal Rivers * * * to cause to be made a plat or plan of such surveys and examination, which *shall be returned to Congress* * * * for the purpose of designating and marking the boundary * * * agreeable to the true intent and meaning * * * of the act." Plaintiff's Exhibit 21.

Lucius Lyon and the Burt Survey.

Lucius Lyon never determined the boundary *impossible.* While at La Pointe, Wisconsin, in the spring of 1840 he was told the line was in doubt, evidently by some one in possession of the erroneous Farmer map.

In 1848, as Surveyor General, he approved the plat of the Burt survey as being in "conformity with the field notes."

There is no question raised as to this fact, nor the fact that Burt did survey the line according to the Wisconsin Enabling Act, as he was instructed to do. Plaintiff's Exhibits 35 and 36. Neither Lyon nor Burt had any latitude in marking the boundary line. They were instructed to mark the line in accord with the Wisconsin Enabling Act, a line considered then only as provisional, subject to ratification by Michigan.

The State of Michigan had no hand in this survey and this record is barren of any proof that it ever had any notice that it had been made or filed.

Green Bay Sector.

So Far as Any Agency of the Government Determined the Boundary in This Sector, it was the Strawberry and Porte Des Morte Passages.

In 1842 Cram, as a part of his duties assigned in 1841, charted these passages and reported the chart to Congress. Cram's report, Plaintiff's Exhibit 94.

Cram's second report, dated February 10, 1842 (Plaintiff's Exhibit 23), says:

> "It only remains necessary to make the survey of the channels of Green Bay."

Plaintiff's Exhibit 97 is the chart of these passages and returned by Cram to Congress with his report, Plaintiff's Exhibit 94, in which Cram, after speaking of general conditions on Lake Michigan, number of disasters, their causes, etc., says:

> "Commencing at Death's door, *the entrance of* Green Bay, and going round the lake to a point nearly opposite, on the east side, we pass through more than 500 miles of country, etc."
>
> Plaintiff's Exhibit 94, page 17.

Plaintiff's Exhibit 99 is the first chart of the Rock Island passage and the water west of Chambers Island. This was dated 1864 and was based on surveys of 1863 and 1864.

It is now known that these islands were surveyed while a part of Michigan territory in 1834 (Plaintiff's Exhibit 57, page 8), and in connection with the base line afterwards adopted by Wisconsin. Defendant's Exhibit 181 and Fig. 26 of Defendant's map supplement.

This is the reason therefore for the return of the descriptions on all the islands in dispute to Wisconsin for taxation.

If there was ever any construction placed upon a doubtful line in this sector, it was not in accord with the action of the Federal Land Department.

There is no definite boundary in this sector *on any map* and no description thereof extant, except the enabling acts and constitutions, all of which described the line as the "center of the most usual ship channel."

Wisconsin's possession is found solely on the wrongful act of the Land Department in returning these lands for taxation contrary to the construction placed thereon by another Federal agent, Captain Cram, who said that Death's

Door was *the* entrance to Green Bay. Such wrongful act, without the knowledge or consent of Mighigan, cannot be made the basis of a claim for territory by acquiescence.

Further, it appears that the situation as to taxation of lands in Washington, Chambers and Rock Islands is the same as in the Menominee River.

Defendant's Exhibit 333 appears to list all the transfers of title on the above islands. It shows affirmatively that there have been no transfers or taxation on Rock Island and only a portion of Chambers and Washington.

We quote from page 244 of the record where the Register of Deeds was identifying the entire transfers made:

> "Q. And the description of property in that exhibit relates to what islands, if any?
>
> A. This here was mostly Washington Island, and some Chambers Island but nothing in Rock Island."

Plaintiff's Exhibit 121 is a map showing about one-sixth of the area of Washington Island. Comparing Exhibit 333, above referred to, with Plaintiff's Exhibit 121, it appears that patents have never been granted nor the lands entered for taxation on the following descriptions:

N. W. ½ of S. W. ¼ section 25, town 34, range 29.
Frac. section 15, town 34, range 29.
N. E. ¼ of S. W. ¼ section 26, town 34, range 29.
N. W. ¼ of S. E. ¼ section 26, town 34, range 29.
All of section 35, except S. W. ¼ of S. W. ¼.

When it is considered that these lands were surveyed as a part of Michigan territory, the question arises, When or in

what manner has Wisconsin exercised jurisdiction over the lands above? In what manner has jurisdiction been exercised over Rock Island? What portions of Chambers Island does Wisconsin claim to have assumed jurisdiction over.

These pertinent questions naturally raise another and that is, can it be said that Michigan has acquiesced in Wisconsin's open, notorious and hostile possession of these lands?

The principal traffic in and out of Green Bay from 1830 to 1836 was in schooners between Green Bay settlement and the lower Lake Michigan ports, usually Chicago.

Plaintiff's Exhibit 57, page 15, shows first cargo of lumber exported from Green Bay to Chicago in 1834.

On page 17, it shows vessels in 1835 at Green Bay were steamers and schooners, 10 of the former and 24 of the latter. The steamers were from Buffalo or Chicago and most of the schooners from Chicago or Saint Joe.

Plaintiff's Exhibit 88 under date of 1833, the petition for harbor improvements states, "More than half the *schooners* have grounded on the flats."

Plaintiff's Exhibit 124 shows on Lake Michigan, in 1833, 11 steamers and 48 vessels.

Plaintiff's Exhibit 128, page 24, shows the date of the first steamers from Buffalo as 1834, the first regular line.

Plaintiff's Exhibit 92 indicates supplies for Chicago and other western towns came from Saint Joe on southern Lake Michigan.

Plaintiff's Exhibit 156, pages 3 and 4, dated in 1834, remarks on several schooners arriving at Green Bay from Chicago.

Plaintiff's Exhibit 92 shows that the vessel arrivals in 1836 were 450.

In connection with the sketch reproduced in this brief, showing the courses through Green Bay, we respectfully call attention to the following apparent facts:

For all trade to Green Bay the Strawberry or Eastern Passage is 4 miles shorter and is a passage "close aboard" a shore line with deep water and many prominent headlands and good harbors.

The Western passage was between the unmarked submerged Whaleback and Frying Pan Shoals, around Chambers Island Shoal and thence back around Green Island Shoal, unknown and unmarked.

The Eastern shore, as this record shows, had been traversed by the Indians and voyaguers and was well known.

For all trade to southern lake ports the Door was 16 miles shorter than the Rock Island passage.

For all trade to Mackinac, by way of Fox Islands, the Door passage is slightly shorter.

For the route to Mackinac north of Beaver Islands, Rock Island passage is slightly shorter.

The Rock Island passage was between unmarked shoals. See sketch or chart, Plaintiff's Exhibit 114.

The hazards of the Rock Island passage continue on one side or the other for a distance of over ten miles.

The Door passage is complete in two and one quarter miles. See courses laid out on Government chart, Plaintiff's Exhibit 114.

The diagram—figure 29 of map supplement to Defendant's brief—is a cross section in one plane only.

To make the passage available for the width shown it would be essential that no parallel cross section reduce the region of navigable water. To illustrate this point and its

bearing on the Rock Island passage we have taken Defendant's diagram (Fig. 29) and superimposed a red line indicating the bottom in a parellel cross section in the entrance to this passage. We have also superimposed by a green line a cross section at right angles to the course as laid upon the Government chart. Note on this course that Fisherman's Shoal is obscured by Rock Island. We have assumed that the soundings shown on the Government chart (Plaintiff's Exhibit 114) are shown in feet. It is well known that on all charts, soundings are in feet in the tinted areas only and in fathoms on the white.

To correct this error would greatly increase the exaggeration of the vertical distances and it is only important to the shoal areas which are in feet, but not in their relation to the greatest depths.

On Fig. 30 we have illustrated the position of the parallel cross section superimposed and also the right angle cross section which is in two planes.

On Fig. 31 we have in red ink indicated a cross section of the channel west of Chambers Island at the point of greatest obstruction, the plane used being shown in red ink on Fig. 32.

Defendant's Claim of Misstatement.

We have been accused by Defendant of several misstatements of fact. This we emphatically deny. Most of the points raised are immaterial, but we mention a few, which might be considered important and for the purpose of showing our good faith.

Counsel insists the lakes at the head of the Montreal were not known as Lakes of the Desert, but were called Pine

Woods Lakes at the date of the Michigan Enabling Act (1836). His claim is based on three maps which he calls attention to. We list the maps and also give the dates they bear as follows:

Defendant's Exhibit 141, date 1843.
Defendant's Exhibit 144, date 1848.
Defendant's Exhibit 146, date 1849.

The name of Pine Woods Lakes do not appear in any map, history paper or writing until Captain Cram had been back there and called the lakes by that name and the first map to bear that name after Cram's designation is a map published seven years after the Michigan Enabling Act.

We said and still believe that Captain Betts testified to coming from Chicago by schooner through the Door passage in 1845 and that the old Pilot Island light was then burning. Captain Betts' testimony indicates he came earlier than 1855 and he testified (Record 17) that the old Plum Island light was discontinued when Pilot Island light was established. Plaintiff's Exhibit 109 conclusively proves this to have been in 1850. The record further shows four separate appropriations. "For a lighthouse on Pottawatomie (now Washington) Island at the entrance to Green Bay" prior to the appropriation of 1848 which definitely named Porte des Morte and beyond question was used on Pilot Island.

Captain Betts was one of the early keepers of Pottawatomie light and knew it had been located by mistake (Record 17). He also knew the traffic was between Green Bay and Chicago and used the anchorage in the Door in storms (Record 19).

Conclusion.

The very short time permitted us to file this reply brief will not allow of extended discussions of the many points raised in Defendant's Brief. We doubt the necessity of it. We doubt that it would be of any special aid to the Court in determining this case. The record is too large and the exhibits too extensive to warrant the use of the Court's time in determining small quibbles. We have tried to present the bigger issues and the proofs supporting our claims. This case is very largely one of fact. When these facts are resolved, then the rules of law laid down by this Court will become applicable. Our main brief presents our authorities and the doctrines we maintain are applicable here.

We respectfully submit that this record shows that Congress in 1836 made an original grant to Michigan; that such grant has never been amended or modified in any particular; that the boundary Congress intended to make for the south line of the upper peninsula consisted of two river systems, joined by a straight line connecting their headwaters; that an agent of the Federal Government reported to Congress that this line was an impossible boundary; that Michigan relied on that information as well as did Congress; that no other boundary was ever defined by Congress, and the only offer of an adjustment was never accepted. Michigan claims that when the true facts first came to her knowledge she acted with diligence and in a spirit of conciliation attempted to make settlement with Wisconsin. In this Michigan was unsuccessful, and this suit was brought asking this Court to determine that the original grant to Michigan, mistakenly

withheld from her, be now determined as the true line. No compacts, findings or agreements have intervened to modify her claim.

Michigan, therefore, respectfully submits that she is entitled to the decree prayed for.

Respectfully submitted,

ANDREW B. DOUGHERTY,
Attorney General;
CARL D. MOSIER,
Assistant Attorney General;
MEREDITH P. SAWYER,
Special Counsel,
Attorneys for the Plaintiff, State of Michigan.

Legend—Sketch Map.

1. St. Martin's passage.
2. Nine-foot shoal in mid-channel, Rock Island passage.
3. Fisherman's Shoal in entrance, Rock Island passage.
   NOTE.—Light on Rock Island invisible on course from east.
4. Plum Island. Range lights and coast guard. Pilot Island directly east.
5. Door Bluff. Door passage is between 4 and 5.
6. Whaleback Shoal.
7. Frying Pan Shoal.
8. Strawberry Islands.
9. Chambers Island.
10. Eagle Bluff and Eagle Harbor, also Horseshoe Island.
11. Fish Creek.
12. Hat Island.
13. Green Island.
14. Menominee River.
15. Course to Green Bay, Wisconsin.
16. Egg Harbor.
17. Sturgeon Bay and ship canal.
18. Peshtigo Reef lightship.
19. Sugar Island in Menominee River.

NOTE –
SHADED PORTIONS INDICATE SHOALS IMPASSABLE FOR SMALL SCHOONERS.
CROSSES ++ INDICATE BUOYS OR LIGHTS AT PRESENT.
MARINETTE CO. WISCONSIN
MENOMINEE CO. MICHIGAN
GREEN BAY
DOOR COUNTY PENINSULA
LAKE MICHIGAN
N
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

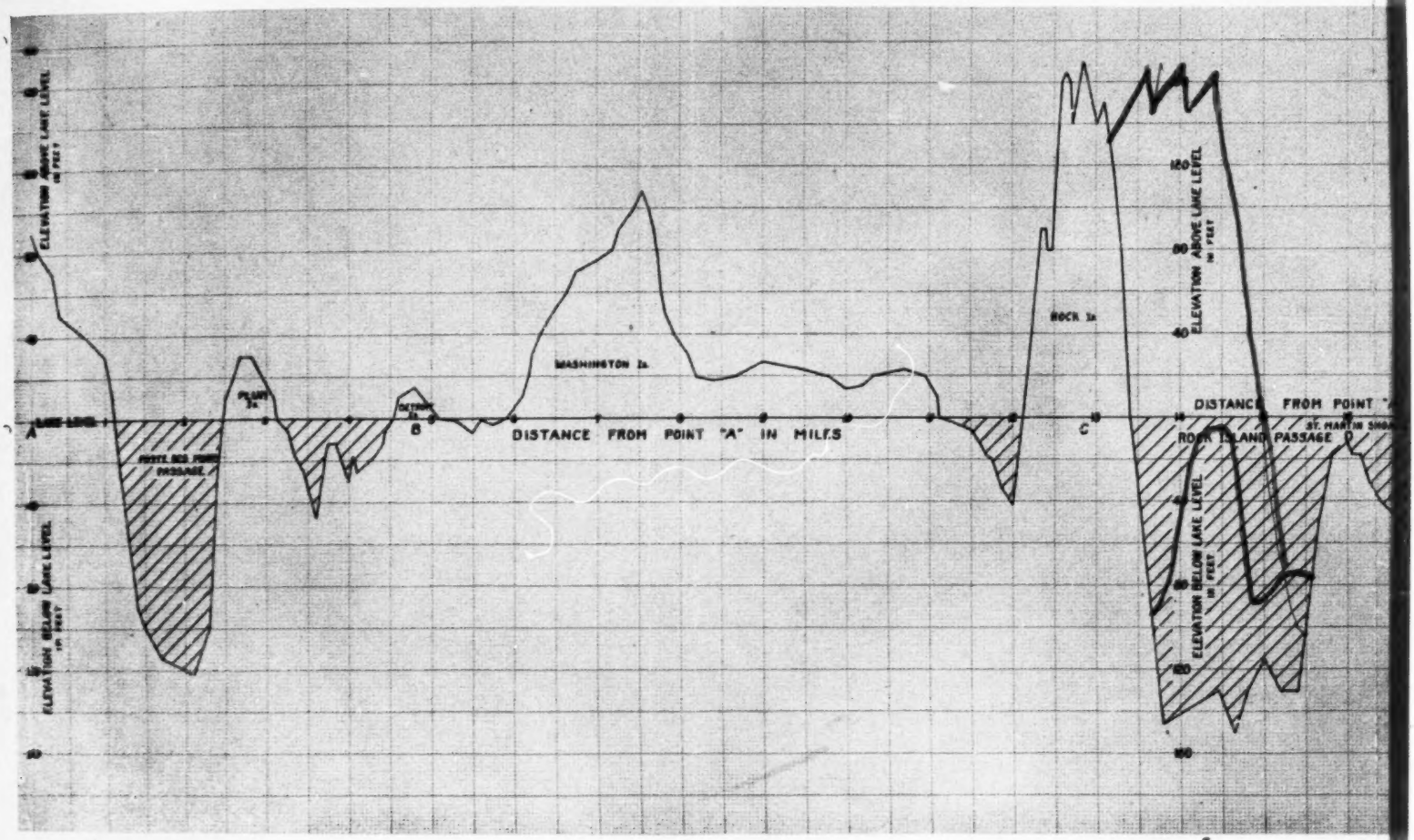

FIGURE 29.

Profile of Grand Traverse from north point of Door County peninsula to Summer Island, along line shown in black on next figure. sent water in the various channels. Vertical distances are very much exaggerated in relation to horizo contour lines on land areas and soundings of water, as shown on

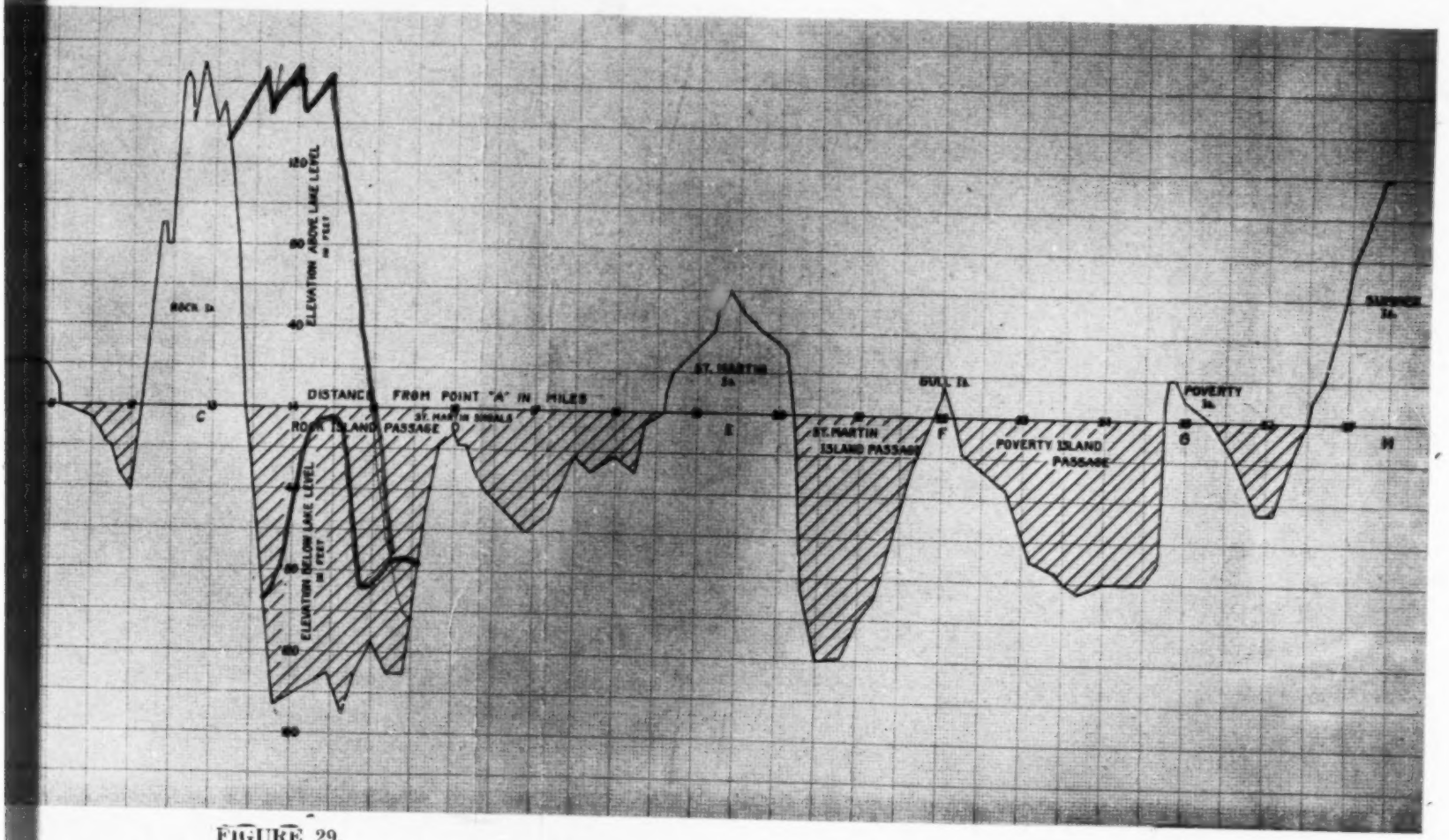

FIGURE 29.

land, along line shown in black on next figure. The middle horizontal line indicates water level, and shaded areas below said line repre-
are very much exaggerated in relation to horizontal distances. The altitudes and depths are obtained from
and areas and soundings of water, as shown on Michigan Exhibit 114.

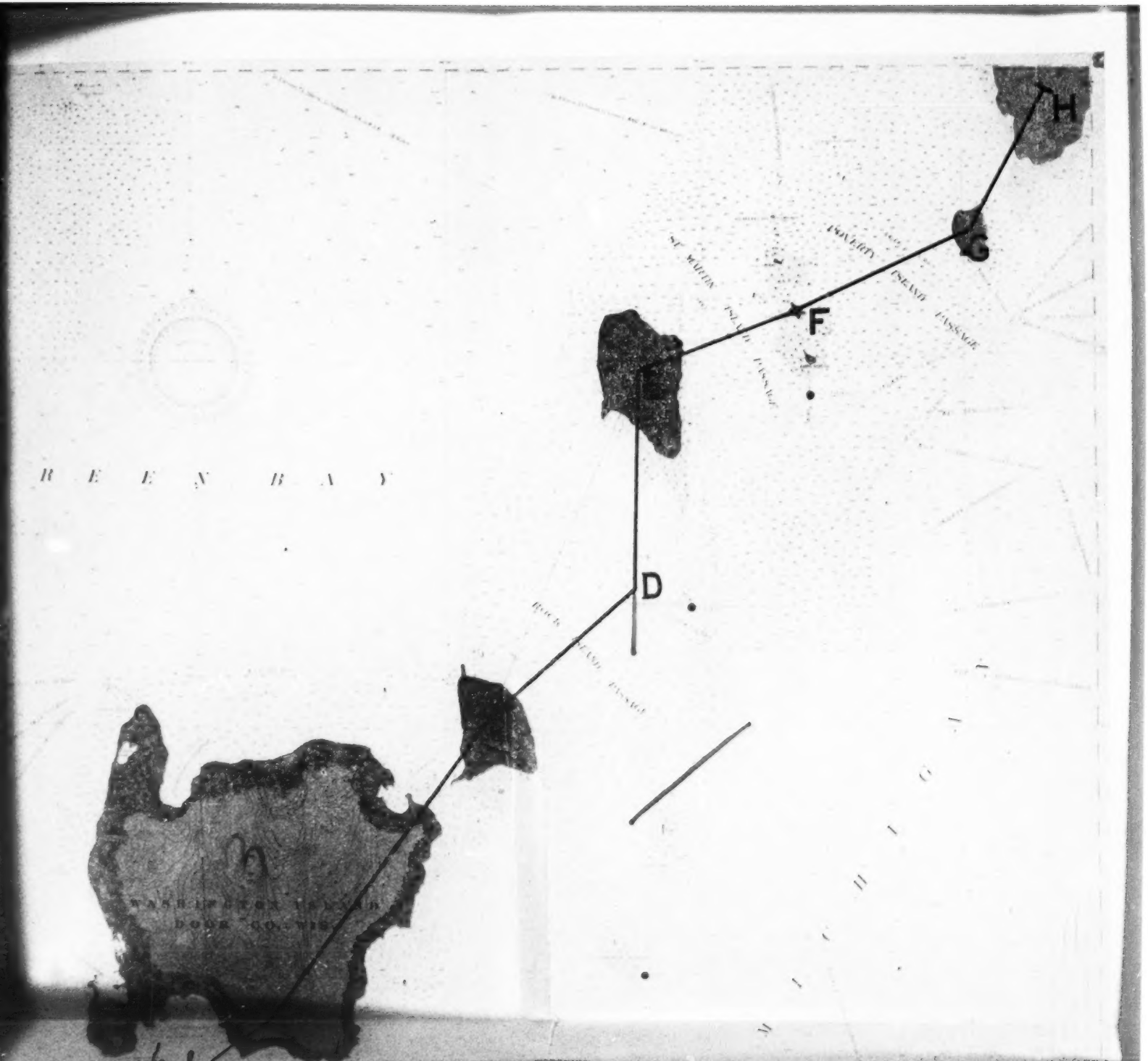
H
G
F
D
ST MARTIN ISLAND PASSAGE
DOUGLAS ISLAND PASSAGE
R E E N B A Y

FIGURE 30.

Part of Michigan Exhibit 114, to which has been added heavy black line showing course of profile shown in preceding figure.

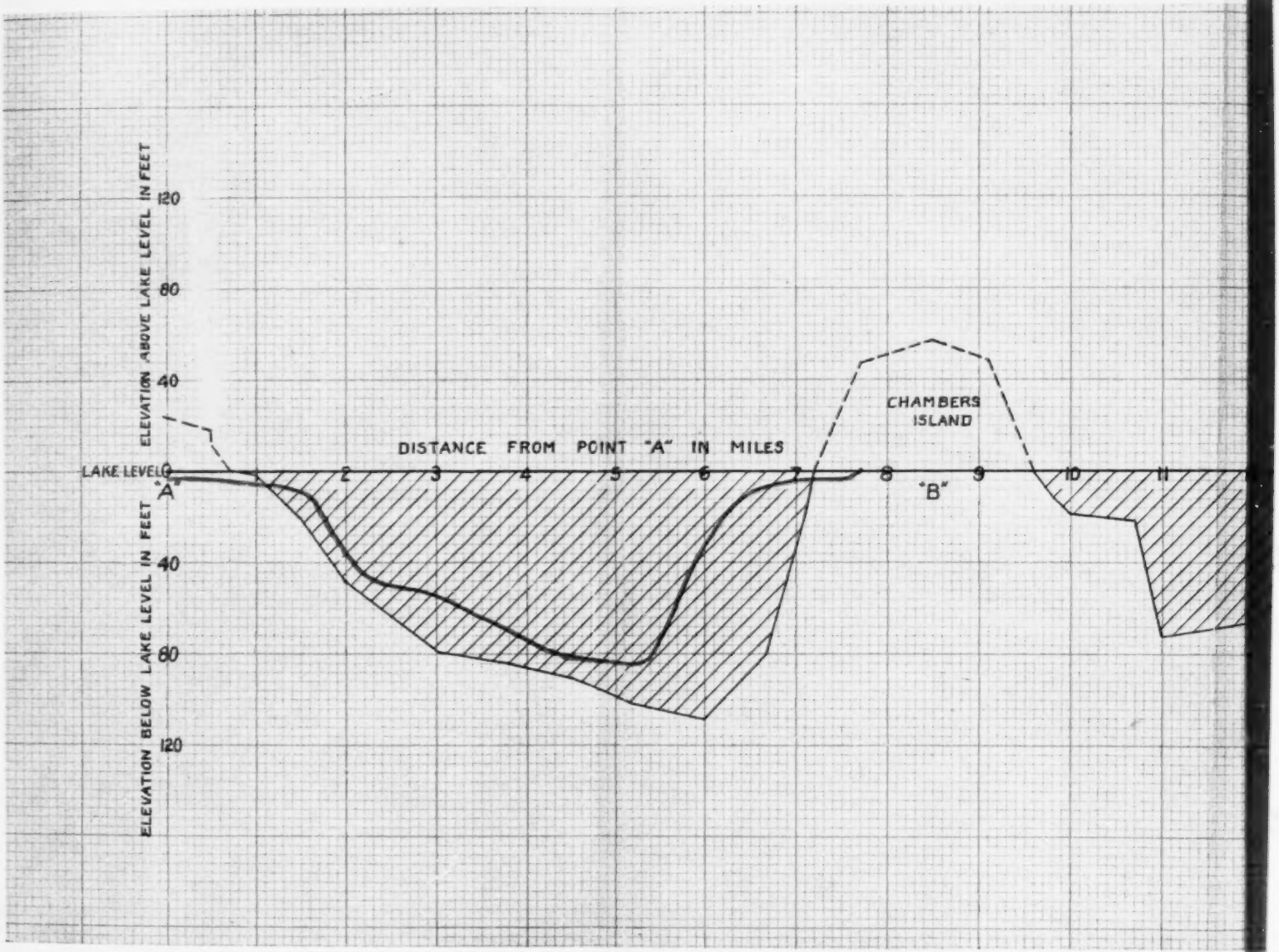

FIGURE 31.

Profile across Green Bay through Chambers Island and Strawberry Island along heavy black line shown on next figure. This profile is
gan Exhibit 115, from which the data was taken, does not give contours of islands, and hence the profile of the isl
on bottom of Bay is based on soundings shown on Michigan Exhibit 115, and is approximate

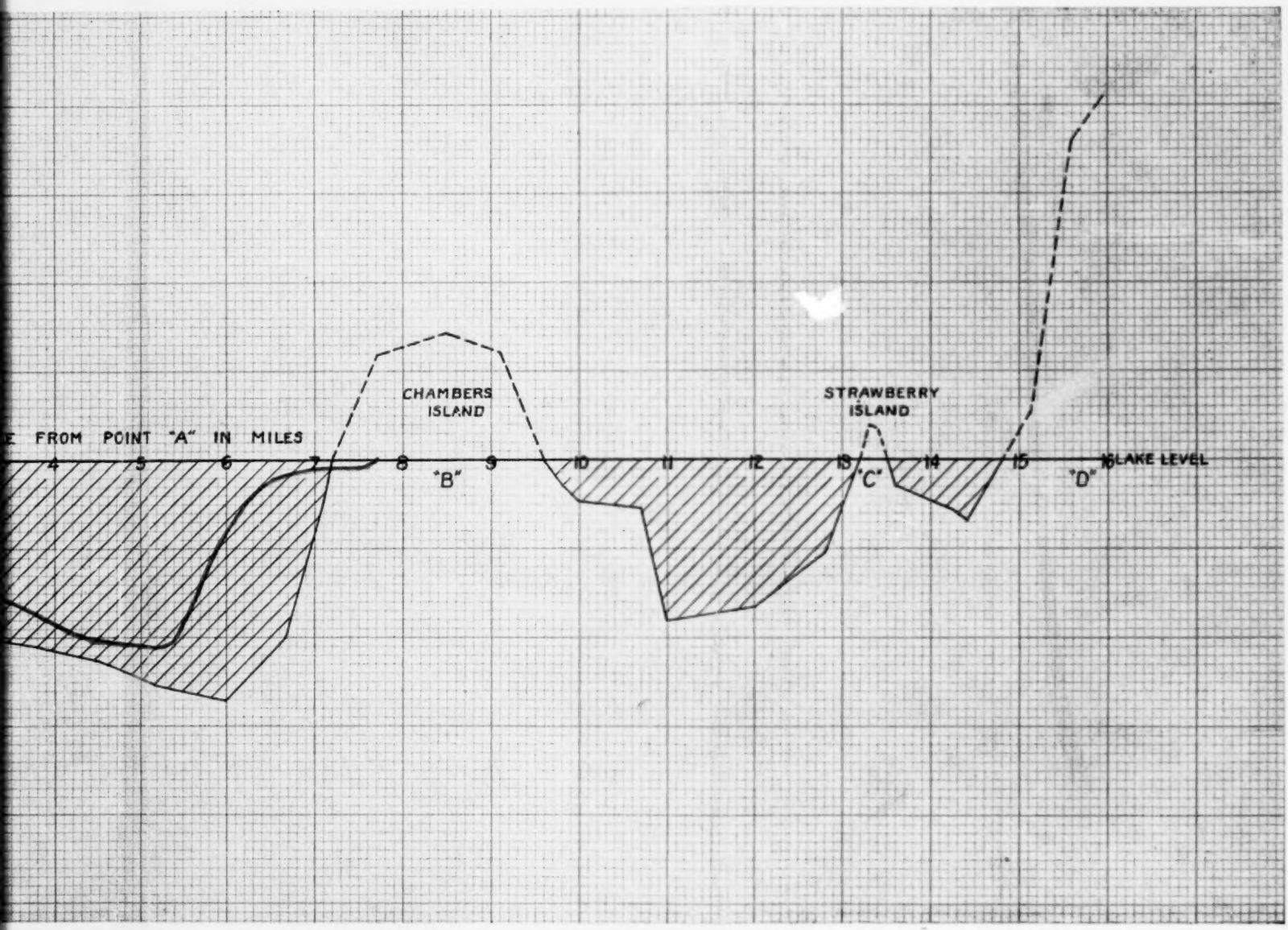

FIGURE 31.

and Strawberry Island along heavy black line shown on next figure. This profile is similar to that shown in Figure 29, except that Michi-
the data was taken, does not give contours of islands, and hence the profile of the islands is not accurate. The profile
m of Bay is based on soundings shown on Michigan Exhibit 115, and is approximately accurate.

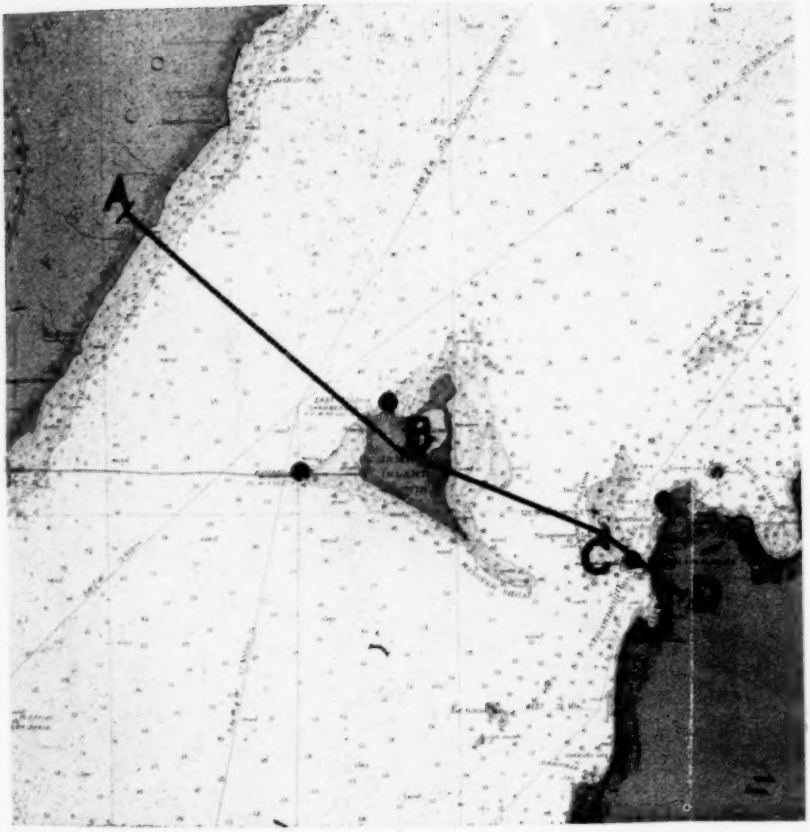

FIGURE 32.

Part of Michigan Exhibit 115, on which heavy black line has been drawn to indicate course of profile shown in preceding figure.

IN THE

Supreme Court of the United States

OCTOBER TERM, 1923

ORIGINAL, NO. 25

IN EQUITY

STATE OF MICHIGAN,

Plaintiff,

v.

STATE OF WISCONSIN,

Defendant.

MOTION FOR DISMISSAL OF ACTION

Comes now the above named defendant, State of Wisconsin, and makes the following motions for dismissal:

1. For dismissal of the complaint and the entire action in this case on the ground and for the reason that from an examination of such complaint and a consideration of those matters of which the Court takes judicial notice, consisting of maps, public acts, documents, official actions and matters of a similar character, it affirmatively

appears that the complaint fails to state a cause of action; that the records and proceedings so referred to contradict the allegations of plaintiff's complaint in such material respects that when the true facts are substituted for such contradicted allegations it affirmatively appears that the plaintiff has no claim whatsoever; that upon consideration of the same matters, it appears that any claims which may at any time have existed, assuming the allegations of plaintiff's complaint to be true, it affirmatively appears that the plaintiff is now barred from asserting them by reason of long acquiescence in the boundary as claimed by the defendant; that within the rules laid down and the decisions made by this Court, the plaintiff's claim is stale; that failure to assert the claims now made has resulted in the creation of rights and interest in reliance upon the present boundary, which, if now disturbed, would result in hardship, inconvenience, confusion and injury to persons not now parties to this proceeding, as well as to the defendant, and that within familiar rules of equity applicable to actions of this kind, relief at this late date should be denied.

2. If this motion is denied, the defendant makes three separate motions relating to three parts of this controversy, based upon the divisions of this controversy as specified in paragraph 19 (page 35) of the plaintiff's complaint herein:

(a) That so much of the complaint as makes claim to the territory along the Montreal River and from thence to Lac Vieux Desert (Lake of the Desert) and Lake Brule be dismissed for the reasons stated in the first motion:

(b) That so much of the complaint as makes claim to certain islands in the Menominee River be dismissed for the reasons stated in the first motion;

(c) That that part of the complaint which makes claim to certain islands in Green Bay and claims additional territory, and attempts to set up a claim of a different channel than that now considered to be the main channel and most usual ship channel, be dismissed for the reasons set forth in the first motion.

That defendant, in support of the propositions herein set forth, submits herewith its brief, setting forth at length the various reasons and propositions in support of this motion, and calls the Court's attention to the authorities and records which support such propositions.

If the first motion herein be denied, and any or all of the three remaining motions are denied, the defendant herein moves the Court for an extension of time in which to file an answer and for an order so extending the time in order to allow sufficient time for this defendant to file an answer herein.

Dated this 29th day of January, 1924.

HERMAN L. EKERN,
Attorney General,

ROBERT M. RIESER,
Deputy Attorney General,

Attorneys for Defendant.

IN THE

Supreme Court of the United States

OCTOBER TERM, 1923

ORIGINAL, NO. 25

IN EQUITY

STATE OF MICHIGAN,

Plaintiff,

v.

STATE OF WISCONSIN,

Defendant.

NOTICE OF MOTION FOR DISMISSAL OF ACTION

PLEASE TAKE NOTICE that at the opening of the session of the Supreme Court of the United States on Monday, the 3rd day of March, 1924, or as soon thereafter as counsel can be heard, the undersigned, as attorneys for

the defendant above named and in its behalf, will submit the annexed motion for dismissal of the foregoing action.

Herman L. Ekern
Attorney General of the
State of Wisconsin.

R. M. Kneeel
Deputy Attorney General of
the State of Wisconsin.

Dated this 31st
day of January, 1924.

To:

Andrew B. Dougherty,
Attorney General of the
State of Michigan,
and
Alvah L. Sawyer,
Special Counsel.